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National Petroleum News

News From Oil Industry Everywhere

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Advance In Tank Wagon Price In Middle West Fails To Hold

1938 Passes July 1, A Winner Over 1937 In Gasoline Demand

N. P. N. News Bureau

WASHINGTON, Aug. 9. — Pessimistic prophets to the contrary, domestic demand for motor fuel during the first half of 1938 slid in a comfortable million barrels ahead of the same period in 1937, according to the U. S. Bureau of Mines monthly report released today.

Although the depression has yapped at its heels, gasoline demand for the first six months of this year stood at 244,754,000 barrels, while the same period last year leveled off at 243,730,000 barrels. The 1938 showing was all the more unusual in view of the fact that the domestic motor fuel demand in April, May and June of this year was slightly under the same periods last year.

Domestic demand for June this year was 48,293,000 barrels, slightly under the June, 1937, total which amounted to 48,580,000 barrels. However, because of continued heavy exports, total demand was two per cent above that of June 1937.

June motor fuel exports were 4,284,000 barrels, an increase of about 1,199,000 barrels over last year, according to the Bureau's report.

Daily average crude production was 3,139,200 barrels, which was 194,000 barrels daily under the Bureau's forecast for the month. The total for the first half of 1938 was 602,745,000 barrels, or about 17,500,000 barrels less than the total for the first half of 1937. Crude stocks declined 6,349,000 barrels during the month.

According to the report, gasoline stocks were reduced by 7,616,000 barrels in June, making the June 30 total 80,531,000 barrels.

Madison Jury Dismissed

MADISON, Aug. 5.—Federal Judge Stone dismissed the federal grand jury today, indicating that the oil investigation is dead.

He also set Sept. 26 as date for retrial of the 18 defendants granted new trials in the tank car case. Trial of the 16 defendants in the jobber-contracts case, originally set for Sept. 26, will go over until later, he said.

Will the Dam Hold?

Timely, when an oil man is reading of the failure of the advance in the tank wagon market in the middle west to hold, is the editorial in this issue of N.P.N. entitled, "Government's Pegged Crude Price Brings Wells Threatening the Industry."

Editor Warren C. Platt points out that the conservation policy of government agencies, dating back to NRA code days, was built around a pegged price for crude oil which has led to the drilling of a vastly increased and unnecessarily large number of wells. On the other hand, refinery and tank wagon markets, left to seek their own level, now will not profitably support the present crude price. And more and more producers are seeking a market for their own oil thus threatening the whole market structure.

Oil Purchasers Shop Around In Southwest

N. P. N. News Bureau

TULSA, Aug. 8. — Selective buying of crude oil, usually accompanying conditions of oversupply in the producing fields, did not increase last week but, on the other hand, showed no signs of diminishing.

With a big line of goods from which to choose, buyers are enabled to select both as to price and quality. The recent curtailment in buying in southern Oklahoma fields, which restricts the market by about 6500 barrels daily purchasers assert, is one of quality. The oil is lower in gravity and higher in sulphur than their refinery customers want and the decreased market for Oklahoma-Kansas pipeline stream oil has made it necessary to cut back the inferior oil so as to preserve the proportions which can be sold, they claim.

In East Texas, with some 12,000 barrels daily of Arkansas and Louisiana crude actually coming into the world's biggest oil field, the selective buying is on price basis. There has long been the contention that East Texas oil was either over-priced or other grades in that general area were under-priced.

From the producers' standpoint the latter contention is made, but refiners who operate on today's market take the other view. The "foreign" oil coming into East Texas is being laid down at East Texas refineries and at trunk pipeline stations for transshipment to the Gulf at 30 and 40 cents per barrel less than the East Texas price, gathering charges included. The oil is not as good as the East Texas grade but, say refiners who are processing the Schuler, Ark., Lisbon and other North Louisiana grades which are being imported, it is not 30 or 40 cents worse than East Texas oil.

East Texas Situation

A logical first guess, when the news came out two weeks ago that 500-odd wells in East Texas would be deprived of a market because of purchasers turning to other areas was that some of the idle refineries in the field would start up. While many of the number of plants, real and alleged, idle for months, could be recommissioned, it is considered by field observers that they will not start up, even though they may be able to get bargain crude from wells which have been cut off from market. The reason against their resumption is the difficulty of disposing of fuel oil. A principal market for East Texas fuel oil from the beginning of the field has been to

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Standard of Indiana States Advance Unjustified

N. P. N. News Bureau

CLEVELAND, Aug. 9. — The 0.3-cent advance in its tank wagon price for gasoline made by Shell Petroleum Corp. in eight midwestern states Aug. 3 failed to stick and it was stated at the company's headquarters in St. Louis late today that its tank wagon price would come back down that same amount Aug. 10.

"Due to competitive conditions," was the laconic reason the company gave for retracting its effort to get the tank wagon market up over a wide territory to more properly reflect the price of crude and transportation, refining and marketing costs involved.

Earlier in the day, Standard Oil Co. of Indiana had stated that it did not believe an increase in the tank wagon market in the middle west was warranted at this time and that it would not advance its prices. This was the first statement the Indiana Standard had made since the Shell made its advance, although NATIONAL PETROLEUM NEWS had been at its door every day.

Even before this, however, there were indications that the advance of 0.3 cent in the tank wagon price on third grade, regular and premium gasolines was not holding. Other refining companies which had followed the initiative of the Shell company and advanced their prices began to drop back in certain territories where they had found competitive conditions the hardest to withstand with their own higher prices.

Standard's Statement

The text of the statement issued by the Standard of Indiana today read:

"In response to requests from oil trade publications, Stand-

ard Oil Co. of Indiana officials stated today that their company had no intentions of advancing the tank wagon price of gasoline 0.3-cent or any other amount, as several other refiners have done. With competitive conditions as they are in all markets, no advance is warranted, the Standard officials believe."

Shell Petroleum Corp.'s advance Aug. 3 was effective in Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri and Kansas. The company stated that, although there had been some improvement in recent weeks in the tank car market, the disparity between the tank car and tank wagon prices of gasoline in relation to the price of crude oil still existed and that it had decided on the advance as a step towards the improvement of the economic relation between the cost of the raw material and the finished product.

Shell gave as its opinion that the present price of crude oil is not excessive when due consideration was given to all the risks and costs which are incurred in the discovery and production of crude oil.

During the day or so following Aug. 3, advances of 0.3-cent in tank wagon prices were made by practically all the large oil companies except the Indiana Standard, marketing in these eight states, including Continental Oil Co., Barnsdall Refining Corp., Mid-Continent Petroleum Corp.; Tide Water Associated Oil Co., Socony-Vacuum Oil Co.; National Refining Co., Skelly Oil Co., Sinclair Refining Co., Phillips Petroleum Co., The Texas Co., Cities Service, Pure Oil Co.

Jobber's Viewpoint

A canvass made by NATIONAL PETROLEUM NEWS among independent oil jobbers in the eight states, a few days after the Shell Petroleum Corp. had advanced its tank wagon price, indicated that the independents pretty generally had advanced their prices by the same amount, except in certain areas, such as around Detroit, where retail price cutting was general.

The following from a letter sent in by a strong independent jobber in Illinois reflects the comment from this class of oil marketers in general, in response to N. P. N.'s inquiry:

"I was one of the first to meet the advance and encourage others to do so, as I felt it was for the betterment of the entire industry. I honestly believe that this advance will help the jobbers as well as their suppliers.

"It was encouraging to see the wonderful co-operation that was given throughout this entire territory, not only by the major companies but the jobbers and dealers as well, of course with the exception of the Standard Oil Co., which up to this time is still maintaining the old tank wagon prices. However, we do hope to see an advance in their tank wagon prices very shortly.

"I am inclined to believe that this advance will surely help the jobbers on the longer margin for which they have been looking for some time and I am sure that our suppliers are intending to give us a helping hand.

"We all realize that the price structure in the last few months for the major refineries has been very discouraging and we surely could not expect any help when they themselves have been losing money on the refining of gasoline. I do believe that this step is made to benefit the entire oil industry and certainly hope that everyone, major or jobber, throughout the middle west, will co-operate with any leader who is in favor of benefiting our industry."

Owensboro Cuts Centralia Crude

CLEVELAND, Aug. 9. — Owensboro Corp., pipeline subsidiary of Standard Oil Co. of Ohio has reduced the price it will pay for crude in the congested area of Centralia, Ill. field 15 cents to $1.10 per barrel, effective Aug. 8.

At the same time, the company lifted the limitation of 55 barrels which it had placed on its daily per-well purchases for several months.

In announcing the reduction in price, an official of the company said that a good deal of crude had been moving out of the field at cut prices, and Sohio was endeavoring to protect its connections.

The company will continue to pay $1.25 a barrel for crude in the north Centralia area where there is no danger to its connections from drainage, it was said.

'Gas' Pump Shipments Gained in June

WASHINGTON, Aug. 3. — June shipments of gasoline pumps by American manufacturers numbered 12,454 units, valued at $2,479,556, compared with 12,623 units in May with a value of $2,516,099, the Census Bureau reports. Shipments in June last year were 18,954.

Oil Purchasers Shop Around In Southwest

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railroads and it is said there is no outlet in this direction for more oil than is being taken.

Ran on Cheap Crude

In the era of chaos in East Texas, 1931-35, much fuel oil was stored in pits and a lot of it is still there. The refiners who then operated in this manner could afford to throw away this product, for they were getting crude at ridiculous prices—10 cents and 25 cents a barrel—and, as to some of them, discovery from time to time of thefts from pipelines showed that some of the crude wasn't costing anything.

The stage is set differently now. There is enforcement of the regulations, state and federal, and one of the rules is that no oil is to be stored in open tankage or pits. While it is possible that producers without a market might offer their crude at prices substantially below the current posting of $1.35, it is not considered likely that offerings will be made at prices low enough to induce the resumption of operations of the shutdown plants.

One of the larger plants of the East Texas region was reported at the end of this week to be about to resume but this was said to be to process a batch of impounded oil recently cleared by a state court. The question involved was whether the oil had been produced prior to the date when the state began requiring approved tenders for its movement. The court held that the regulation did not apply to the oil involved in the suit, about 150,000 barrels. Some other suits, turning on the same question, have been or are about to be filed.

Wells Without Market

Accounts vary as to the number of wells actually, or to be, without market. The high number given was 523 and a count agreed on by several observers was 508. Taking the latter figure, reports were that about 190 of them were actually without market as the week closed. The market for 127 was expected to terminate Aug. 14 and a reprieve for 157 was given for the rest of August by the action of a major purchaser.

In this case the connections were not transferred but the local gathering system which had been taking the oil is continuing to do so, delivering the crude to the other company's line. During the week, five purchasers took on 35 of the distress wells that were located near their lines.

Except for the 35, no permanent relief for the situation was brought about and the prospect now is that, unless some other arrangement is made, the number of wells without market on Sept. 1 will be 500 or more—new wells are still being drilled—and more than 300 on Aug. 15.

Cut K. M. A. Taking

Principal change in Texas' other area of crude oil congestion, the K. M. A. field, in Wichita and Archer counties, was a reduction in the per well takings by The Texas Co., principal purchaser in this field. The August allowable for this field, as set by Railroad Commission of Texas order, is 32 barrels per well top, made up of 15 barrels per well and .85 barrel per acre with a maximum of 20 acres.

A well located on 20 acres, the spacing pattern followed by most of the operators, would get 32 barrels. The Texas Co. said it would take 24 barrels per well, retroactive to Aug. 1. It was rumored the four other purchasers would adopt the same plan.

Although The Texas Co. is reducing the total amount of its purchases from the approximately 9300 barrels daily it took in July to 8000 barrels daily for August, the reduction in per well runs was expected to enable it to take on upward of 50 new connections. Until recently, there were as high as 125 wells completed and without market outlet.

Negotiations by producers in this field for sales of crude continue. A foreign buyer is reported to be making tests of a sizable sample of the oil, with the view to contracting for a substantial quantity on long term basis. This would call for the making of arrangements for pipeline delivery to the Gulf Coast, as the present tank car rate of 34 cents, against a pipeline rate of 20 cents, plus 10 cents gathering charge is not economic when it is considered that the producers would have to install gathering system, storage and loading racks, if the oil moved by tank car.

Magnolia Petroleum and Continental Oil have followed The Texas Co. in restricting their purchases in the K.M.A. field to 24 barrels per well daily, which is 75 per cent of the allowable fixed by the state authorities. The other two buyers in the field have not announced a change in their policy of taking crude.

Government Attacks Madison Dismissals

MADISON, Wis., Aug. 4. — "It was the human thing to do," said Federal Judge Patrick T. Stone today explaining to government counsel why he had not kept the jury locked up for weeks or months while he carefully considered dismissal motions made at conclusion of the four-month trial last January of the tank car case.

Government counsel were arguing in support of their petition to have Judge Stone rescind his order of July 19 dismissing the indictment as to defendants.

They contended that, after letting the case go to the jury, Judge Stone had no power to dismiss the indictment even though he had "purported" to reserve his rulings on dismissal motions.

Just before the case went to the jury, Judge Stone announced that he would deny all remaining motions for dismissals but would leave the way open to accomplish the same result, if necessary, after the jury had brought in its verdict. In other words, for those defendants who deserved to be freed but were not acquitted by the jury, the court would set aside the verdict and free them.

Judge Stone had explained that he was taking this action because he manifestly could not, within a reasonable time, study dismissal motions of each of the defendants in light of the 12,000-page record and hundreds of exhibits.

So, when J. H. Lewin, government attorney, was arguing Aug. 4 that there was no authority either in common law or the statutes for the Madison court to dismiss these defendants, Judge Stone interposed:

"It would have been inhuman to have kept the jury locked up while I studied the briefs and record and heard the arguments, so I did the logical and practical thing — I reserved my ruling."

Lewin said he sympathized with Judge Stone's attitude but insisted that the court could not "reform practices to make them more expedient."

Crawford Argues

Government Attorney Crawford, following Lewin, said the court's denial of the defendants' motions for directed verdicts had given the impression that the court thought there was some evidence against the defendants.

"If, after the verdict, the court found — as it apparently did — that closer examination of the record showed there was no substantial evidence, then a new trial should have been granted to these defendants," Crawford told the court. That was the only course open, he added.

Opening for the defendants, Weymouth Kirkland, Standard of Indiana attorney, chided government counsel for not objecting when Judge Stone announced his intention of reserving his rulings. Six months after the trial was "too late" to object, Kirkland argued.

"By their conduct," said Kirkland, "government counsel have not only acquiesced in but invited the court's action and are not now in a position to say the dismissal order should be expunged."

Kirkland told the court that it had the "inherent right" as a court to act as it did, dismissing the indictment when it found there was no substantial evidence against these defendants.

"The government hasn't said it has new evidence," Kirkland added. "Why put these men through the ordeal and expense of another trial when this court would, at its conclusion, direct a verdict for the defendants?"

Kirkland cited numerous cases which he said indicated the federal courts have the power to give judgment notwithstanding the verdict. Lewin contended that these cases were all civil cases. Kirkland said the same rule applied in criminal cases.

Much of the argument turned on the *Slocum* and *Remington* cases, decided by the U. S. Supreme Court, with both sides insisting that these decisions supported their contentions.

Charles Francis, Pure Oil Co. attorney, replying to Lewin's challenge that defense counsel name one case in which a court's dismissal after the verdict was upheld, cited the case of U. S. vs. France.

Replying to defense counsel's charges that government attorneys had "acquiesced in" the court's reserving its rulings, Lewin contended there was some confusion at the time as to what the court actually had done in this regard. He pointed out that, at opening of the argument August 4, the court had filed an order amending its order of January 19 to make clear its intention to reserve its rulings.

"We expected that some of the defendants might be granted new trials," said Lewin, "but we never dreamed that the court would dismiss any of them."

The eleven defendants, whose dismissals on July 19 were attacked by the government, were: Globe Oil & Refining Co. of Kansas; E. G. Seubert and Allan Jackson, of Standard of Indiana; Jacob France, of Mid-Continent Petroleum Corp.; Dan Moran, of Continental Oil Co.; A. V. Bourque, secretary of Western Petroleum Refiners Assn.; W. G. Skelly, Skelly Oil Co.; Frank Phillips, of Phillips Petroleum Co.; H. M. Dawes, of Pure Oil Co.; Bryan S. Reid, of Socony-Vacuum Oil Co.; and C. L. Jones, formerly with Socony-Vacuum.

Michigan Crude Up 10c

MT. PLEASANT, Mich., Aug. 9.—Simrall Corp. today announced a 10c advance to $0.90 per barrel in price it will pay for West Branch, Arenac and equal grades of Michigan crude. Last previous change was 29c reduction to $0.80 on Dec. 29, 1937.

WaggonerEmployes Vote Against C.I.O.

N. P. N. News Bureau

WASHINGTON, Aug. 8. — Because employes of the Waggoner Refining Co. and W. T. Waggoner Estate, Vernon, Tex., did not cast a majority of votes for either Oil Workers Union (affiliated with the C.I.O.) or the Waggoner Employes' Federation in a recent labor election, National Labor Relations Board has dismissed petitions of both these organizations for the right to be sole collective bargaining representative of the employes.

According to NLRB, 45 votes were cast for the Oil Workers, seven for the Employes' Federation, and 41 for neither organization.

The Board has ruled previously that it will not continue its investigations in cases of this sort without a request for a run-off election by the labor organization which has received the greater number of votes. Since Oil Workers Union has said it does not want a run-off election, both petitions have been dismissed, NLRB said.

Doomed Texas Wells May Be Opened 'til Drowned Out By New Brazos Dam

N. P. N. News Bureau

TULSA, Aug. 8.—Texas Railroad Commission will hold a hearing at Mineral Wells on Aug. 12 to decide whether it will lift proration restrictions on the producing oil and gas properties in northwestern Palo Pinto County which will be flooded by waters backed up by the Possum-Kingdom dam, now under construction on the Brazos River.

The commission said that testimony would be taken at the hearing to determine the producing status of the wells and "for the further purpose of considering the advisability of removing proration restrictions from these lands in order that as much of the oil and gas remaining in the producing reservoirs in this area will be recovered as possible before the lands are flooded."

The dam is expected to be completed in 18 to 20 months.

Principal oil production to be submerged is in the Kisinger pool, an old development. The wells are small and the chief restriction which now is imposed by the state is the Sunday shutdown. Compensatory claims would be reduced by getting out as much oil as possible before the waters of the Brazos back up and cover the wells.

The commission set out the properties which the Brazos River Conservation and Reclamation District said would be wholly submerged. In Palo Pinto county, Albert Adkisson has eight oil wells; Brazos River Gas Co. has four and Goble & Moore, one. In Young county D. M. Knox has two oil wells which will be drowned, L. A. Long eight and W. J. Rhodes, two. Brazos River Gas Co. has six gas wells in Palo Pinto county around which the fishes will play.

There are also 64 oil wells and nine gas wells within a half mile of the water line which the reservoir will create. This is hilly country and it is possible that the reservoir may spread around in such way as to affect properties which are not now considered subject to submersion. Mainly, the commission's concern with the latter class of wells is with respect to the equity of any order it may make affecting the wells which will be drowned.

Best well of this area is the No. 1 Moran of Sinclair Prairie Oil Co., which has produced more than one million barrels.

HOLC Says Mortgage Covers 'Movable' Station Equipment

N. P. N. News Bureau

CLEVELAND, Aug. 8. — Can the Home Owners Loan Corporation, in foreclosing its real estate mortgages, claim the service station equipment on the mortgaged property—including movable equipment such as lubsters, which were installed by the supplying company and are covered by an equipment lease?

This question, far-reaching in its implications, has been raised in a suit now before the Common Pleas Court of Ashtabula County, Ohio.

The HOLC has asserted its claim to the equipment and it is being resisted by Hubert Fuller, of Cull, Fuller & Laughlin, Cleveland law firm representing the supplying company involved.

The case dates back to 1933 when the owner of a house on a corner lot in Ashtabula decided that it was "an ideal site for a filling station."

So, he leased a portion of the premises for erection of a station by a local gasoline retailer. A supplying company took a sublease with owner's consent to remove equipment. It was the customary lease and agency agreement with an equipment lease on the side.

At the time, there was no mortgage on the property, but a year or so later the owner secured a loan from the HOLC, giving a mortgage on the property.

There have been several changes in operators and suppliers. Each time the new supplier bought the equipment and leased it to the incoming operator.

HOLC Action Surprises

When the HOLC recently filed foreclosure proceedings, Attorney Fuller, representing the supplier, went into court to take the customary steps to remove the equipment.

Much to Fuller's surprise, the HOLC opposed this move, contending that not only the underground tanks but the gasoline pumps, air compressors, lubsters and similar equipment "loaned" by the supplier were "common law fixtures" and had become part of the realty and so could not be removed.

Fuller contends that these pieces of equipment, most of which are movable or only fastened by bolts, are "trade fixtures" and consequently can be removed by the supplier.

Counsel for the HOLC have taken the position that even though the equipment was installed under an equipment lease signed by the station operator and the owner of the premises recognizing the ownership and right of the jobber to remove such equipment, it still was covered by the mortgage.

Further. HOLC counsel contend that it makes no difference whether the equipment was installed before or after the execution date of the mortgage.

Testimony in the case has been completed and briefs are now being filed. A decision is not expected before fall.

One angle of the case, which was brought out at the trial, is that the last operator of the station was the home-owner himself. In the negotiations for transfer of the equipment from the old supplier to the new supplier, the home-owner bought the equipment and then resold it to the new supplier. His title, if he ever had any, lasted only a day, and he said he did not regard himself as the owner of the equipment at any time.

Counsel for the HOLC did not press this point and appeared disinclined to make any capital out of it, it was said.

Pennsylvania Gets Fuel Oil Tax Bill

HARRISBURG, Pa., Aug. 9.—Rep. Albert L. O'Connor, who hails from Cambria County in the bituminous coal regions, has introduced a bill in the special session of the Pennsylvania legislature to impose a tax of three cents a gallon on all fuel oil used in the state.

Some doubt has been expressed as to whether the measure comes within the governor's call for the special session. The Ways and Means Committee has not yet scheduled any meetings and the O'Connor Bill is the only revenue-raising measure introduced so far.

The proposed tax is termed an "emergency" levy and the money would be paid into the general fund. The bill provides for annual licensing of all distributors.

The bill would allow distributors to deduct one per cent of the tax due the state for leakage, evaporation and spillage. Monthly reports would have to be filed with the state.

During the regular session last year O'Connor sponsored a similar measure. Hearings were held but the bill never passed the House.

Another measure of interest introduced in the special session here is a proposed constitutional amendment to prevent future diversion of motor funds, similar proposals have been introduced in both the Senate and House.

Penn Grade Association Shifts Field Men

OIL CITY, Pa., Aug. 8.—Shifts in the territories of the field staff of the Pennsylvania Grade Crude Oil Assn. bring new assignments, mostly the eastern part of the country, the association announces.

George L. Duke, who had been the New York City representative, resigned June 1 to go with Kendall Refining Co. He had been on the association staff about four years.

M. D. Ritchie, who formerly maintained Cleveland headquarters has been assigned to the New York area, from which point he will also cover the Philadelphia-Baltimore territory.

The Cleveland field post is now being handled by D. A. Breene, who previously had spent several weeks in the middle west for the association. That territory is now being handled by J. E. Dickson, operating from the Chicago office.

James H. Begley of Franklin, Pa., has joined the association staff, and will make his headquarters in Oil City. He was formerly with The Pennzoil Co.

New York Fuel Oil Outing

NEW YORK, Aug. 8.—Fred H. Gilbert, Patchogue Oil Terminal Corp., and president of New York Fuel Oil Association, announced that that group would hold its annual Silver Cup Tournament and outing September 13, at Washington Irving Country Club, near Tarrytown, New York. H. B. Van Cleve, Maritime Petroleum Corp., has two legs on the William C. McTarnahan trophy. It must be won three times in succession to be held permanently. Over two hundred reservations have been made for this annual event, Gilbert said.

License Ordinance Sought By Dealers

BINGHAMTON, N. Y., Aug. 6.—Despite the city council's tabling of a proposed ordinance to license gasoline retailers here, the group of Independent dealers backing this move have not lost interest in the matter.

Plans are on foot to draft a new proposal which would be more likely to survive a court test, it was learned. By such an ordinance, it is proposed to regulate the gasoline business by the payment of stipulated fees which the dealers hope will curb "chiselers, peddlers, backyard pumps and companies and individuals delivering gasoline under unsafe conditions."

The proposed ordinance, which was tabled would have required all wholesalers of petroleum products to take out a license and pay an annual fee of $200, with all agents, peddlers or sub-distributors operating out of such wholesaler's plant paying $100 each a year.

All service stations and other gasoline retailers would be licensed with an annual fee of $50. Indoor dispensing equipment for gasoline and kerosine, where no license had been issued, would have to be removed within 30 days "as same is considered by city fire marshal, inspectors and underwriters as a source of fire hazard to the city."

Commercial consumers would have to pay $50 a year fee and those taking more than 1000 gallons monthly—and not reselling 75 per cent—would have to pay a fee of 1 cent per gallon and report all purchases to the city.

Vermont Marketer Plans Big Water Terminal

RUTLAND, Vt., Aug. 8.—The Manning Co., an oil marketing organization, has purchased a 7½-acre tract adjoining the New York State barge canal at Fort Ann, N. Y., where it will erect a water terminal with a capacity of 3,500,000 gallons.

The contract for the tanks has been let to the Chicago Bridge and Iron Co., and the contract for excavating for the harbor, pier, and pipelines has been let to Earle & Merry, of Rutland. Plans call for the terminal to be in operation by Oct. 1.

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Warren C. Platt, *Editor and Publisher*
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Government's Pegged Crude Price Brings Wells Threatening Industry

By WARREN C. PLATT, Editor

The ever-growing, fundamental economic difficulties of the oil industry constitute too weighty a problem to discuss at all thoroughly in the middle of this summer vacation month. However the following headlines of the oil news of the past ten days or so should receive comment at least:

500 oil wells in East Texas cut off by pipelines in favor of cheaper Louisiana crude;

125 oil wells in the new K-M-A field of Wichita Falls, Texas have yet no buyers for the oil;

6500 barrels of crude oil per day turned back on its producers in Southern Oklahoma because buyers prefer a better grade at the same price and now easily available;

$100,000,000 spent in drilling new and unwanted wells in California this year while the state's production was cut voluntarily by other producers from 740,000 to 650,000 barrels a day.

New crude oil production in Southern Illinois continues to displace crude oil from Kansas and Oklahoma in the big refineries of the Great Lakes region.

Oil producers who drilled the greatest number of completions in history last year—32,560, almost three times the number of 5 years ago,—are at the present time drilling almost as many completions as a year ago.

While crude oil stocks show a decrease from a year ago, that is not the fault of many of the producers who are contributing daily to the large number of idle wells. These producers cry loudly that the major crude oil buyers should "stabilize" the situation by buying their unwanted crude, even though the buyers only put it in storage.

At the same time these crude oil producers are adding the threat of starting up shut-down refineries and building new ones to find a "market" for their unneeded crude oil. These producers, who have drilled the excess wells over what the country needs, say that, if necessary, they will raid the country's gasoline markets through their new and proposed little refineries to get money for their crude oil.

So once again the oil industry is up against the fundamental law governing leasing and drilling and maintaining lease requirements, the doctrine of "capture" of the oil no matter from whose land one may drain it.

Once again the industry is up against the blindness of the oil producers, as well as their helplessness under the law of "capture," to understand that this country and the markets of the world can only consume a limited amount of petroleum products, an amount limited by factors over which the oil industry has no control whatever. The oil industry cannot tickle the palates of the nation like a food vendor, nor appeal to the credulity of mankind to save it from disease or bad looks, as can the patent medicine and cosmetic makers, and by such means bring about any increase in the consumption of petroleum products.

Once again, too, the industry is up against the larger companies developing a greater percentage of their own crude oil requirements, and hence they do not care to continue buying considerable oil from Independent producers.

The big difference between today with all this unwanted production crowding for a market and previous floods of oil, is that the oil producers are the beneficiaries of a government-pegged price. It still is in effect government-pegged, because hardy indeed would be the major crude oil buyer who would cut the price, with all the grand juries actual and threatened that the federal government has called on the oil industry, and with Texas about to bring to trial this fall an attack on these same major companies, a suit to oust them from the state for complying with the Federal Trade Commission oil code years ago. This code sought to clean up marketing difficulties so that a better price could be paid for crude oil from which Texas would gather rich harvest in increased taxes.

The oil producers of the country, chiefly in the southwest, got the Roosevelt administration in 1933 to demand a pegged price for crude of $1 a barrel instead of an actual price that was as low as 10 cents a barrel. The large crude oil buyers adhered to this price, even though the Roosevelt administration left them holding the bag by failure to enforce the code and to restrict "hot oil" production and to stop price cutting as it had promised to.

That pegging of the price at government request and the carrying out of that so-called "conspiracy" which resulted in the trial at Madison, were the greatest boons in the history of the oil industry to the oil producers and their friends and associates, the oil field and oil well equipment and supply companies. Never in the industry's life had they enjoyed such a harvest.

Here is what the producers did as a result. When the price of crude was finally set at the profitable figure of $1 a barrel the producers drilled 50 per cent more wells in the next year 1934. That was a big increase. The price situation became bad because of the failure of the government to enforce the code and the inability of the state of Texas to control the East Texas field. So in 1935 the number of completions only increased 17 per cent.

But in the spring of that year, under the pressure of government both at Washington and in the oil states, the Connally law shut off "hot oil"; the federal government reduced gasoline production so that stocks had to be drawn on and it reduced crude oil production so that crude stocks were reduced and there was a large and unexpected increase in demand for petroleum products due to the return of some prosperity. And last, but the government says not least—in fact the government says it was the controlling factor—was the "great conspiracy" to buy some excess gasoline.

At all events the price of gasoline rose to a profitable point for every one above the cost of crude and the crude price firmed and even advanced and with it the price of gaso-

line again advanced—to which the government at Madison pointed as further evidence of a "conspiracy."

There then was no question in any one's mind but that the new price for crude was here to stay for a long time. So during 1935 the boys got busier with the drill and increased their completions that 17 per cent over the uncertain year of 1934. And, as "the conspiracy" continued so "successfully" through all of 1935 and into 1936, the producers speeded up some more and made an increase in drilling effort of 20 per cent in 1936.

In the spring of 1936 the government called out its grand juries. But the oil industry was "frozen" in the hands of government, state and national. Besides, the country's increase in gasoline consumption had increased and the regulations of crude oil production, finally worked out during the late code, were seemingly effective. So the profitable price for crude oil continued and the producers shot their completions in 1937 up to an all time high of 32,560 holes of which 23,600 were oil wells, 2540 produced gas and 6420 were dry holes. This was an increase of 26 per cent over the previous year of 1936 but an increase of almost 170 per cent over 1933, when government first came to the aid of the oil producers and "pegged" the price at a profitable figure.

Regardless of all past boom periods there never has been a time for drilling activity like these years of a government-pegged price. The whole gulf coast from New Orleans down to the Rio Grande river and Mexico has become alive with drilling activity, with new oil fields, new towns and new cities. Houston has become the great city of the southwest. Up north Oklahoma and Kansas have grown. Southern Illinois has been rediscovered for new oil fields. Michigan came back to life. Even Pennsylvania returned to activity and produced more oil than it could handle. California enjoyed another tremendous growth. In all sorts of out of the way places in the country the producer has gone looking for more oil.

It is a fine thing for the best interests of the country to have the oil men so energetic and finding so many new oil reserves. The trouble, however, is in the manner of their finding it and the drilling of so many wells. Oil thus discovered threatens every one's market, not alone the market for crude oil but for gasoline and all other petroleum products.

Critics of the oil industry frequently say "the industry" should not drill so many wells and produce so much oil, or build so many service stations. The very fact there are so many wells and so much unneeded oil and so many stations proves that the industry is not a unit in its actions, but that it is a highly competitive industry. The individual producer generally gives no more thought to the state of the world and its need for any more oil that he might produce, than does the average new refiner or filling station owner when planning his own particular venture. Producer, refiner and marketer each think of their own needs for money and are governed accordingly.

The oil industry is a victim of government regulation, of government staying the natural operation of the law of supply and demand. The government has only gone but half the way in its "conservation" of crude oil. It has decreed that gas pressures on oil sands shall be kept at the maximum by holding back production to a figure which just happens (?) to be what the market will absorb without breaking the price.

The government, whether state or national or both, and they all are involved in today's situation whether they admit it or not, will have to go further and either forget price entirely or limit the number of wells to the acre and to the best physical engineering for getting out the most oil at the lowest cost regardless of from under whose lease it comes. That will present as fine an engineering and legal job as men have yet tackled. When it comes to being administered by a government body, one has their grave doubts as to government's ability to perform the job.

Also the oil industry and government will have to decide whether all these plans will be administered with or without regard to the resultant price. If a governmental eye is to be kept on the price of crude oil, then some provision will have to be made to squelch the producer whose oil is not wanted, either because of its poorer quality, or its location or because there is too much of it. If the government starts down that road, at least with some of the people who are now in Washington, it is rather plain to be seen that the oil industry cannot help but run square into open government price-fixing.

The great trouble with the average business man, including the average oil man, and his relations with government, is that he sees so much benefit to himself personally at the immediate moment if the government will only do just one little thing, that he loses sight of all the calamities that can befall him further down that road. I say calamities because to one who does not like or believe in a socialistic or communistic government, they would be calamities. "Parlor pinks" might not so style them.

Had government left the price of crude oil alone, in 1933-34 and 35, and confined its efforts solely to true scientific conservation, the price of crude would have rocked along at whatever level actual market demand fixed. The price of gasoline at the refinery would have followed, probably part of the time at a profitable level and probably part of the time at an unprofitable figure.

And if one can wind this already too-long August editorial up with a prediction—we probably would have had fewer price wars in the retail branch of the business than we have had under "government" manipulation, the price at the refinery on the whole would have been more profitable. Actually it has not been as profitable as many people thought it would be when they entered this era of government influence of price. We certainly would not now have all these wells, unattached to pipelines, or with their production largely shut back, whose owners are clamoring for a market. The oil field supply men would not be as prosperous as they are now and their businesses would be much smaller but they would not have to go into a period of shrinkage of demand for their products as they undoubtedly will in the future, under present conditions.

When the oil industry journeyed in great haste and heedlessness to Washington in the summer of 1933 it put its head in the lion's mouth, and it is there yet, whether you want to believe it or not. It has been a most expensive lesson in civil government and we are not through paying for it yet.

Native Son Runs Against 'Bug Hunters' At California Border And He Explodes

N. P. N. News Bureau

LOS ANGELES, Aug. 6.—C. G. Milham, founder of the All Year Club of Southern California and manager of that tourist-boosting organization for seven years, arrived in Los Angeles last week in the role of a visitor and issued a blast against the much-criticized California border inspection.

"Mad as a hornet" was Milham at the indignities suffered by visitors coming to this state in automobiles at the hands of border inspectors looking deep into personal luggage for possible fruit flies, or other insects.

"I think it is stupid—and above all things I hate stupidity," said Milham.

Recently returned with his wife from a motor trip through Europe, Milham said:

"We went in and out of Germany, Ireland and England and back to the United States. At all boundaries we were treated politely, asked if we had dutiable things and let pass without inspection of our baggage.

"Now we are touring our own country, have passed through eleven states and had no trouble anywhere until we entered California near Grants Pass. There an inspector took all our bags out of our car, opened all of them, pawed through all of them, mussing our carefully packed clothes and wouldn't put the bags back on the car. He made us angry, and I lost my temper.

"What is the use of doing that to tourists for whom we spend so much money advertising? Is that necessary to prevent diseased fruit and seed entering the state?

"It is stupid and futile. The inspector mussing our clothes overlooked a compartment in my suit case where I carry my dinner jacket and where I could have brought in lots of seeds. And I understand railway passengers are not so molested, and seeds can be sent through the mails."

Retail Price Maintenance Spreads in New York Area

N. P. N. News Bureau

NEW YORK, Aug. 9.—Maintenance of the retail price of branded gasoline under the New York state fair trade law, which Aug. 3 was placed in effect in four counties of New York City has spread to other nearby sections.

Socony-Vacuum Oil Co., which led in placing its prices in Bronx, New York, Kings and Queens counties under the protection of the state Feld-Crawford Fair Trade Law, today announced that, Aug. 10, it would officially extend the area in which it is specifying retail prices to Nassau County, Long Island.

In making the announcement, the company stated: "The application of the act to the company's branded gasolines has so far met with the general approval of its dealers in the five counties concerned, where conditions in the gasoline market have been particularly chaotic."

Colonial Beacon Oil Co., subsidiary of the Standard Oil Co. of New Jersey, announced it would place minimum prices of 17.5 cents for regular branded gasoline and 19.5 cents for premium in effect in Nassau County Aug. 11. These are the prices which the Socony-Vacuum and other companies are specifying in the five counties.

Pure Oil Co. today announced that it was invoking provisions of the fair trade act in the sale of its branded gasoline in the New York counties, also posting 17.5 cents for regular and 19.5 cents for premium, and it was said it would extend the area to take in Nassau county.

Retailing Was Chaotic

Spurred by the apparently successful operation of the New Jersey fair trade law and by the distressed condition of retail markets in New York City, other supplying companies soon placed the sale of their branded gasoline under the New York state fair trade law, after the law had been invoked by Socony-Vacuum Oil Co.

Socony-Vacuum, effective Aug. 2, Shell Union Oil Corp., The Texas Co. and Tide Water Oil Co., effective Aug. 4, and Colonial Beacon Oil Co. effective Aug. 8 placed in effect a price of 17.5 cents, including 5 cents taxes, as the minimum at which their branded regular grade gasoline can be sold under provisions of the act in the New York City counties. A minimum of 19.5 cents, including taxes, was posted for branded premium grade.

The current price of regular grade gasoline to undivided dealers in New York City is 13.4 cents. The price to divided dealers is 13.9 cents, both including taxes. With dealers adhering to the minimum specified by the supplying companies, they will receive a gross margin of 4.1 cents for undivided accounts, 3.6 cents for divided accounts.

Late in the week other supplying companies of branded gasoline said that their participation in the movement was in the hands of their legal departments, while others indicated that they were "still studying the law, and dealers' reaction to the new policy."

With the possible exception of one company spokesmen for the others felt sure that their action following the lead of Socony was merely a matter of time.

Other Dealers Raise

It was noted in Queens and New York counties late in the week that some dealers of companies, which so far had not signified their intention of making use of the provisions of the act, had raised their prices generally from 8 gallons for $1.25 and 6 gallons for 98 cents —ruling prices before the setting of minimums — to 12.5 cents, plus 5 cents taxes, or 17.5 cents total, the same as dealers of companies operating under the act.

After Socony made the move Aug. 3, Charles J. Bensky, counsel for the Petroleum Dealers Chamber of Commerce of New York, said; "The 4.1-cent margin was a fair start, but, based on a cost survey of his organization, the dealer margin should be 5 cents in New York City."

Bensky said that his organization and the majority of dealers in the city favored the new policy instituted by Socony-Vacuum and that his organization was writing letters to get similar action from all other supplying companies.

Bensky pointed out that, in a speech before the Chamber of Dealers in May of this year, he had appealed to the oil companies to take advantage of the state's fair trade law, or if they felt that the law was not strong enough, to co-operate with the dealers to get legislative action strengthening it.

The placing of gasoline retailing in New York City under the provisions of a fair trade law, follows the action earlier in the year, when the industry in the east took up price maintenance in New Jersey.

As in New Jersey, the action in New York comes when retail markets are suffering from open price cutting, which has reduced dealer margins to between 2 and 3 cents per gallon, a figure which dealers and dealer associations insist will not cover costs, in view of high rentals and labor.

Again, as in New Jersey, the industry was faced, and still is for that matter, with a bill in the city council sponsored by dealers which provides for regulation of gasoline marketing by the city department of markets. In New Jersey, before price maintenance, dealers sought to have the state legislature pass a bill which would have put gasoline marketing under the control of a four-man board. In New Jersey, Standard of New Jersey led the way in the first eastern test of state fair trade laws, while Socony-Vacuum initiated the action in New York.

Convention of N.A.P.R. Set For Sept. 27-29

MILWAUKEE, Wis., Aug. 8.—Plans are being completed for sixth annual convention of the National Assn. of Petroleum Retailers at St. Louis, Sept. 27, 28 and 29, N.A.P.R. headquarters here announces, releasing a summarized program.

Dealers are urged by N.A.P.R. officials to make their reservations now at Jefferson Hotel, which will be convention headquarters.

The N.A.P.R. school of marketing, a feature of the organization's convention last year, will be conducted this year by Northwestern University. Banquet will be held Sept. 28 (Wednesday). The Grand Knights of the Hose will hold court at a stag party on Sept. 27 (Tuesday). Interesting entertainment is promised for the ladies while their men folk are attending the meetings.

ATLANTA, Ga., Aug. 8. — July gasoline tax collections in Georgia amounted to $1,595,085.55, a drop of about 1.5 per cent from collections in July last year ($1,618,800.31), state auditor reports. June collections this year were $1,601,426.63.

California Standard Reports '38 Profits

N. P. N. News Bureau

CLEVELAND, Aug. 9.—Good earnings for the first half of 1938 continue to be reported by the large oil companies, those for Standard Oil Co. of California being nearly as large as for the first six months of 1937.

Ohio Oil Co.

Net income for first six months of 1938 was $3,026,662.51, as compared with $7,487,326.80 for the first half of 1937. For the first half of this year the company showed a balance for surplus of $2,683,516.20 as compared to $6,722,356.91 for the same period in 1937. Net income was equivalent to an earned dividend of 16 cents per common share after provision for a preferred dividend, as compared to a 77-cent dividend for the first half of 1937.

Standard Oil Co. of California

Directors declared the regular dividend of 25 cents a share and an extra payment of 10 cents, with a net profit for the first half of 1938 only slightly less than for the comparable 1937 period. The net for the first six months of 1938 was $15,413,435, or $1.18 a share, compared to $17,780,191, or $1.36 a share in the same period last year.

Sunoco's Profits

Sun Oil Co. for the first half of 1938 showed a net income of $1,760,398, and $4,376,371.80 for the comparable period in 1937. After setting aside all adequate requirements for depreciation, depletion reserves, taxes, and after making provision for bond interest and preferred dividend requirements, the company shows earnings of 63 cents per share of common stock, as against $1.90 per common share in the same period of 1937.

Railcar, Truck Session Of S.A.E. Scheduled

CHICAGO, Aug. 9.—The Society of Automotive Engineers will hold a national truck, bus and railcar meeting in Chicago Oct. 4-5, according to H. E. Simi, vice-president of the society representing the truck, bus and railcar activity.

Automotive and railroad technical relationships will be a feature of the sessions, two-thirds of which will deal directly with engineering problems common to the two groups. The program will include three technical sessions and a banquet, as well as a special inspection trip through the plant of the Electro-Motive Corp. at La Grange, Ill.

Oil Groups Protest Dropping Import Tax

N. P. N. News Bureau

WASHINGTON, Aug. 8. — Lowering the excise tax of 21 cents a barrel on crude and fuel oil imported from Venezuela, will affect the oil industry in this country in several different ways, some of which it is believed are little understood now.

These points are emphasized in briefs filed by oil associations with the State Department authorities here, in advance of a hearing Aug. 15 on the subject of a trade agreement with Venezuela, in which the reducing of the present oil excise taxes is a possibility. Petroleum is by far the most important commodity on the duty list coming into this country from Venezuela.

The present excise tax has been in effect since 1932, being included in the revenue act of that year. The proposal to reduce the tax was implied, rather than made specific, in the announcement from the State Department some time ago of the contemplated trade agreement with Venezuela, one of many negotiated in the past few years with foreign nations.

The hearing Aug. 15 is before the Committee for Reciprocity Information, an agency of the State Department. All interested parties are given opportunity to file briefs and make oral statements. The briefs which have already been filed by the oil association all oppose change in the "tariff" on petroleum. As far as is known no brief has been filed urging reduction of the oil import taxes.

The points emphasized as to how the oil industry in this country will suffer through a change in the tariff, as set forth in the various oil association briefs, are as follows:

1—The present excise taxes on imported oils are one of the bases on which the oil producing states' have built their own conservation or regulatory programs. Future development of the states' conservation policies would be handicapped by a change in the "tariff."

2—Other oil producing nations, perhaps Mexico, would have to be given the same concession on imports of their crude oil and products as Venezuela if the "tariff" is reduced or eliminated entirely, and competition of imported oils would be greatly increased.

3—The oil industry in this country should be protected in some measure from imported oils, in order that development campaigns may be carried steadily forward to locate the new oil fields that will be needed later to make this country independent as to petroleum reserves.

4—Increased oil imports will deprive the industry in California of the remainder of its Atlantic seaboard market and make it more difficult for the California industry to achieve the stability for which it is now striving.

5—Thirty-odd refineries operating exclusively on Pennsylvania Grade crude oil, are particularly vulnerable to competition from imported oils, because of the much lower lifting and manufacturing costs of foreign oils.

6—The quantities of imported fuel oil on which the excise tax is paid, and the larger quantities of now tax-free fuel oil for "supplies for vessels" increase the burden on oil companies in this country now carrying heavy inventories of fuel oil because of lower domestic demand.

7—Oils imported from Venezuela and other countries to make asphalt destroy a market for low-gravity oils from wells in this country, in California particularly.

These points are discussed more in detail in abstracts of the briefs filed by the oil associations which appear in following articles.

Coal producers in this country, who last winter battled the oil associations in their efforts to secure a tax on domestic fuel oil to lessen the competition of oil with coal, now are with the oil groups in opposing any reduction in the import tax on crude and fuel oil.

Senator Holt of West Virginia, said he had forwarded to the State Department several protests he had received from coal producers in his state, including one request that a tax of 3 cents a gallon be placed on imported oil. Representatives of several coal associations will be present at the tariff hearing Aug. 15.

Prominent among representatives of the oil industry at the hearing will be Ernest O. Thompson, member of the Railroad Commission of Texas, and chairman of the Interstate Oil Compact Commission, which represents the six oil producing states in the interstate oil compact. Thompson has expressed himself as opposed to a change in the tariff. Oil associations which have announced they will be represented at the hearing are the Independent Petroleum Assn. of America, Oil Producers Agency of California and the Pennsylvania Grade Crude Oil Assn. These have filed briefs opposing a change in the tariff.

Penn Grade Group Fights Tax Slash For Imported Oil

OIL CITY, Pa., Aug. 8.—Petitioning that the existing excise taxes on crude petroleum and fuel oil imported from Venezuela be not reduced in the new trade agreement to be negotiated with that nation, the Pennsylvania Grade Crude Oil Assn. has filed a brief with the Committee for Reciprocity Information at Washington and asked an opportunity to make a supplemental oral statement, at the coming hearing on this subject Aug. 15.

In questioning whether the present excise taxes have retarded imports from Venezuela, the brief points out that an additional amount of Venezuelan products is indirectly received in this country, in the form of products shipped from refineries at Aruba and Curacao in the West Indies but produced from Venezuelan crude shipped there for refining.

Direct imports from Venezuela in 1937 amounted to 23,187,000 barrels, valued at $16,872,000, the brief points out.

Prices for finished products at refineries in the Pennsylvania grade district have consistently and rapidly declined during 1938, the brief states, and these plants, operating on a high cost raw material, are claimed to be particularly vulnerable to competition from imported oils.

It is stated there are 130,000 to 140,000 wells in the area producing Pennsylvania grade crude oil, with a daily average production of approximately a half barrel a day. Thirty-odd refineries operate on this crude, the brief states, their plants being, in many instances, the largest source of employment in the community in which they are located.

States Programs Aided By Tax, Says I. P. A. A.

N. P. N. News Bureau

WASHINGTON, Aug. 8—The present excise tax on imports of crude and its products is one of the bases on which the oil producing states have built their conservation programs, and these programs would be seriously handicapped by a change in the tax which would encourage increased imports of foreign oil.

This was a principal point brought out in the statement of the Independent Petroleum Assn. of America presented to the Committee on Reciprocity Information of the State Department, which will conduct a hearing here Aug. 15 on the proposal to reduce the tax on crude and fuel oil imported from Venezuela, in a new trade agreement with that nation.

The oil states' programs have stimulated exploratory work, increased employment and purchasing power, added to the nation's oil reserves, prevented monopoly, encouraged competition and added to the revenues of the local communities, Russell B. Brown, general counsel of the association, said in outlining its position on the tariff change. The association represents independent oil producers in all sections of the country.

Pointing out that the proposed trade agreement with Venezuela, as far as concessions by the U. S. are concerned, deals principally with oil, Brown said that, exclusive of petroleum and certain products already on the free list, only three per cent of the total value of our present imports from Venezuela are listed for the tariff negotiations. Approximately 50 per cent of the current oil imports from Venezuela are controlled and imported by a single American company, he stated.

Tend Against Monopoly

The excise taxes on oil imports, unlike some tariffs, do not tend to create a monopoly but, on the contrary, have been effective agents in preventing monopolistic tendencies, Brown said. "As part of the national program to prevent uneconomic oversupply, they enable the smaller domestic producers to compete with the imported product which might otherwise be the basis for destructive price wars," he said.

The brief of the producers' as-

sociation also pointed out the effect of the oil imported from Venezuela on the fuel oil market in this country. The presence of the Venezuelan oil, heavy in fuel oil content, is one of the elements destroying the market for American heavy oil, he said, its low cost of production making it impossible for domestic producers to compete with it in this market. A reduction in the present excise tax would further complicate the present situation, he believes.

Continuance of the present excise taxes would not directly affect the people of Venezuela, because the petroleum resources there are controlled by foreign companies, Brown said.

Kansas Oil Men Against Change In Import Tax

WICHITA, Kans., Aug. 5.—Protest against the U. S. Department of State's contemplated reduction in the excise tax on imported oil under the reciprocal trade agreement with Venezuela has been made by the Kansas Independent Oil & Gas Assn. in a letter to Gov. Walter A. Huxman, to Judge E. R. Sloan, chairman of the Kansas Corporation Commission, and to the two U. S. Senators and seven Representatives from Kansas.

"You know how well Kansas has done its part and more toward helping to stabilize the oil industry overall," wrote H. A. Meyer, managing director of the association. "If the import duty on crude oil brought into this country is done away with, as is proposed in the Venezuelan trade pact, such action would only result in upsetting the program of every oil producing state and would destroy what the industry, the states and the federal government have spent years in developing. It could only result in doing away with restrictions on production through proration and there would follow a market flooded with oil in order to compete with unlimited imports of cheap fuel oil."

The Kansas delegation in Congress and the state officials were asked to register with Secretary of State Hull a "vigorous protest against the inclusion of oil in this proposed trade agreement."

California Opposes Tariff Cut

N. P. N. News Bureau

LOS ANGELES, Aug. 8.—The oil industry in California, because of the extent to which it has been over-producing its crude oil fields, will suffer greatly through the elimination of, or even a reduction in, the excise tax on crude and fuel oil imported from Venezuela, it is stated in a brief prepared by the Oil Producers Agency of California and certain other producers.

The brief will be filed with the Committee for Reciprocity Information of the U. S. Department of State which will hold a hearing Aug. 15 on the proposed trade agreement with Venezuela in which a reduction in the oil tariff is proposed.

Of all the oil producing states, California would be affected most by a change in the tariff, the brief points out. Data were prepared and submitted showing the relative importance of the oil industry in this state, as compared with other industries. It is shown that the number of workers among the oil companies there is nearly 67,000 and that their 1938 payroll will be $111,750,000.

The unique position of the oil industry in California, as it is pointed out in this brief is as follows:

1—Potential production there greatly exceeds the present markets and the rate of actual production in the past several months has brought a surplus of crude oil to the surface, which has been added to already burdensome stocks.

2—The degree of economic stability which has been achieved and the high rate of employment are being maintained only by voluntary curtailment efforts on the part of the oil producing companies there. This state has no state oil control law, such as many states have passed which give a state agency the power to regulate the rate of production.

Japan's Buying

3—Purchases by Japan the past few years have created a market for a good share of the surplus production in California, but it is doubted if Japan can maintain this rate of purchasing due to her precarious financial condition.

4—A break in the crude price structure in this country is bound to be followed by an influx of foreign oil, because imported oil and its products, if they carry no excise tax, can be sold profitably for less than domestic crude and its products, due to lower production costs in foreign countries.

5—The doing away with, or great reduction in, the excise tax, followed by a break in the price structure in this country will upset the voluntary curtailment effort in California, because many producers there are submitting to the curtailment program only because of the protection now afforded by the excise tax, it is claimed.

6—A collapse of the domestic price structure if sustained, will result in premature abandonment of the marginal and small producing wells and will result in great unemployment in California.

7—Free imported oil will deprive California oil companies of what remains of their Atlantic seaboard markets, on which they have depended to maintain economic stability.

Is it a sound policy for the avenue to be made easier to import fuel oil into this country, while domestic concerns are carrying heavy loads of this product due to the lower demand in the recent depression months, asks the brief of the California Oil Producers Agency.

The brief submits figures to show that imports of crude oil and its products into this country for the first three months of 1938 have amounted to 13,833,598 barrels, as contrasted with 10,876,312 barrels in the first three months of 1937.

Fuel Oil Affected

"While the domestic market for fuel oil was suffering from oversupply (production and storage), we imported approximately 2,000,000 barrels during the first three months of 1938, upon which the excise tax was paid," the brief states. "In addition, during these first three months, we imported, tax-free, for 'supplies for vessels' 4,800,000 barrels of fuel oil."

Instead of reducing or eliminating the present excise tax, the tax should be increased, if California is to be allowed fair competition for her natural Atlantic seaboard and Gulf markets, the brief goes on to state.

Shipments of crude and its products from the Pacific Coast to the Atlantic Coast and the Gulf have dropped from 29,264,000 barrels in 1929 to 5,991,000 barrels in 1937, it is shown; while imports from Venezuela have increased from 17,218,000 barrels in 1933, when the excise tax became effective, to around 25,000,000 barrels and over since that time.

"This increased amount of imports since 1933 is quite indicative of the fact that the present tax is not high enough and indicative of what we may expect in increased imports if the tax be removed or lowered," the brief points out.

An injurious effect upon the domestic petroleum asphalt market is predicted by the California producers if the Venezuelan excise tax is reduced or dropped entirely.

Asphalt Producers Hit

"Excepting sporadic small sources and the Talco field in Texas, California is the sole source of domestic oil which produces asphalt," their brief states. "Venezuelan oil will yield the same product. So will Mexican oil, which, we understand, will receive the same philanthropy which would be accorded to the Venezuelan oil . . . . This type of oil comes from small wells—and small wells contribute more to employment than do the large flowing or gas-lift wells. Much more such oil and its asphaltic derivatives would be produced in California now, and more employment would result, if it were not that these imports are appropriating so much of the domestic market, especially in the Atlantic seaboard and eastern states."

The same treatment of other foreign nations in regard to excise taxes on petroleum products, the brief states, will bring competition from other nations. "It is not alone a matter of California's having to meet Venezuelan competition," it states. "Mexico and Peru are only two of the other possible competitors which California will have to meet."

In conclusion the brief states: "There is nothing that Venezuela or any other country could offer the United States which could offset the disaster accompanying free-oil or oil entering under reduced tax. Not only that, but we must remember that, in all probability, other oil producing nations will claim the same privilege."

The committee which prepared and filed the brief for the Oil Producers Agency of California included the following: D. T. Staples, Pacific Western Oil Corp.; Ed Pauley, Petrol Corp.; Thos. J. Casey, Barnsdall Oil Co.; Rush M. Blodget, Blackfoot Petroleum Co.; W. H. Geis, Arrowhead Oil Co., and Robt. M. Pease, attorney.

Bituminous Men Plan Gathering In New Orleans

N. P. N. News Bureau

LOS ANGELES, Aug. 6.—Plans have been completed for the 1938 meeting of the Montana National Bituminous Conference in New Orleans October 10th to 13th, according to an announcement by D. L. Cheney, bituminous engineer for the Montana Highway Department.

From its start as a gathering of highway engineers, technologists, chemists, oil company representatives, and others interested in the greater and more efficient use of bituminous products in road construction, this conference has grown in four years to one of international scope.

The first three meetings were held during 1935, 1936 and 1937 in the home state of Montana under sponsorship of the highway department and with the Western Petroleum Refiners Assn. co-operating in the last two gatherings, which were held at Glacier National Park.

As hosts for the 1938 conference and co-operating in every way to make it a success is the state of Mississippi and the Mississippi highway department which offered the organization a change of scenery and a close-range study of road construction and problems in that state.

The program this year will cover not only low cost bituminous surfaces, but all classes of high type asphaltic surfaces. There will be four sections: (1) Progress in Research as Related to Construction and Maintenance of Bituminous Surfaces; (2) Fundamentals of Bituminous Construction; (3) Construction of Bituminous Surfaces; and (4) Maintenance of Bituminous Surfaces.

Committee Summaries

Each section will be headed by an internationally known authority on the subject to be covered and each chairman will be assisted by a committee of 12 individuals actively engaged in bituminous work. The committee members have prepared papers and assembled data on subjects assigned to them by the chairman.

From this material the committee chairmen will present summaries to the conference covering all phases of the subjects outlined, analyzing the various methods and practices in an effort to bring out all new developments and promote discussion of problems pertaining to different localities.

Each chairman's paper will require about two hours for presentation, following which a round-table discussion period will be held on the points developed. Committee members will serve as conference boards during these discussions to lead in and assist with the solution of problems presented the delegates.

D. A. McKinnon, Montana State Highway Engineer, is general chairman of the executive committee, and C. M. Boggs, president of the Western Petroleum Refiners Assn., and D. L. Cheney are vice chairmen.

The worth of work done by this conference is illustrated by the wide-spread demand for proceedings from previous meetings. A 550-page book covering the 1937 meeting was sent out upon request to countries throughout the world to men engaged and interested in asphaltic work. In addition to this, a number of the leading colleges and universities are using the proceedings of the past three meetings as a reference text on the subject.

'Official' Names Given Oklahoma Fields

N. P. N. News Bureau

TULSA, Aug. 8.—Oklahoma has 473 oil fields, according to the list contained in an order signed by the Oklahoma Corporation Commission which adopts as official the names of pools agreed upon by the nomenclature committee of the Kansas-Oklahoma division of the Mid-Continent Oil & Gas Assn. This is a standing committee composed of representatives of principal oil companies in Oklahoma and it meets as often as discoveries of fields call for new names.

U. S. Oil Exports Reach Peak With Domestic Crude Leading

N. P. N. News Bureau

CLEVELAND, Aug. 9. — The U. S. oil industry's huge increase in foreign demand for crude oil and refined products in the first six months of 1938, as compared with the same 1937 period, has been supplied largely with domestic oil.

U. S. imports of crude increased in the first six months of this year, while domestic production was declining; but exports jumped 41.2 per cent, or more than five times as much as the increase in imports.

The industry's "trade balance" in refined products is even more favorable. Exports of refined products in the first six months of 1938 were 17.1 per cent higher than in the same 1937 period, while imports dropped 15.8 per cent.

These facts are revealed in a comparison of the U. S. Bureau of Mines' reports of imports and exports for the first six months of 1937 and 1938.

Table 1 compares crude oil production, imports and exports. Domestic production in the first half of 1938, it will be noted, totaled 602,745,000 barrels, or 2.8 per cent under production in the first half of 1937.

Gain in Imports

Imports of crude oil from January to March, 1938, increased sharply over the same 1937 period, but in the next three months substantial declines were recorded, giving a net increase of 910,000 barrels, or 7.8 per cent, for the first six months of 1938.

Exports, on the other hand, were consistently higher throughout the first half of 1938, as compared with 1937. Monthly gains ranged from 14.8 per cent in May to 91.5 per cent in March. The excess of January-June, 1938, exports over the first half of 1937 was 11,732,000 barrels, or 41.2 per cent.

The increased foreign market for refined products and how it has benefited the U. S. oil industry is shown in Table 2.

Exports of refined products were higher in every month from January to June than in the comparable 1937 months. Gains ranged from 0.6 per cent in January to 31.2 per cent in March. The 1938 six-months total was 8,620,000 barrels, or 17.1 per cent, higher than the total for the same 1937 period.

Imports of refined products were 14.2 per cent higher in January, 1938, and 2.0 per cent higher in June but were substantially lower in February, March, April and May. The net decline for the first six months of 1938, as compared with the same 1937 period, was 2,355,000 barrels or 15.8 per cent.

Texas 'Gas' Demand Up

AUSTIN, Tex., Aug. 2.—Texas gasoline consumption in June was approximately 2.5 per cent higher than last year, comparison of Texas Comptroller's report on motor fuel sales for June this year and gasoline tax figures for June, 1937, as reported by the American Petroleum Institute.

Texas gasoline sales in June totaled 110,873,025 gallons, or nearly 3,000,000 gallons more than in June a year ago, the reports showed.

Table 1—Crude Oil Production, Imports and Exports, First Six Months of 1938, Compared with First Six Months of 1937, as Reported by U. S. Bureau of Mines

(Figures in Thousands of Barrels)

	Production		Per cent	Imports*		Per cent	Exports		Per cent
	1937	1938	Change	1937	1938	Change	1937	1938	Change
January	98,567	106,007	+ 7.6	1,129	2,095	+85.6	3,596	5,953	+65.5
February	93,173	94,662	+ 1.6	603	1,883	+212.3	3,777	5,328	+41.1
March	106,724	106,524	— 0.2	2,058	2,569	+24.8	3,196	6,121	+91.5
April	104,979	102,702	— 2.2	2,614	1,827	—30.1	4,899	7,553	+54.2
May	110,911	98,674	—11.0	2,638	2,081	—21.1	6,796	7,798	+14.8
June	105,812	94,176	—11.0	2,695	2,192	—18.7	6,181	7,424	+20.1
6 Mos. Total	620,166	602,745	— 2.8	11,737	12,647	+ 7.8	28,445	40,177	+41.2

*Includes imports for domestic use and oil brought in under bond for re-export.

Table 2—Refined Products, Imports and Exports, First Six Months of 1938, Compared with First Six Months of 1937, as Reported by U. S. Bureau of Mines

(Figures in Thousands of Barrels)

	Imports*		Per cent	Exports		Per cent
	1937	1938	Change	1937	1938	Change
January	1,859	2,122	+14.2	7,935	7,988	+ 0.6
February	2,322	1,679	—27.7	6,736	8,605	+27.7
March	3,305	2,325	—29.7	7,014	9,204	+31.2
April	2,910	2,361	—18.9	8,763	10,427	+19.0
May	2,436	1,940	—20.4	9,404	10,681	+13.6
June	2,509	2,559	+ 2.0	8,771	10,338	+17.9
6 Mos. Total	15,341	12,986	—15.8	48,623	57,243	+17.1

*Includes imports for domestic use and oil brought in under bond for re-export.

Crude From New K.M.A. Field Is High In Gasoline Content

N. P. N. News Bureau

WASHINGTON, Aug. 8. — Low sulfur content, high gravity and high gasoline content mark the analysis of the crude from the new K.M.A. field in Wichita-Archer counties, northwest Texas, according to the Bureau of Mines recent analytical distillation report.

The sulfur content is 0.21 per cent, gasoline about 41 per cent and gravity about 44.0 A.P.I., the report shows.

The sample reported on was taken from the Mangold No. 1-A well producing from 3752 feet in the Strawn formation topped at 3689 feet depth.

A second sample, not reported on by the bureau in detail, taken from the Blackwell-Helmerich-Payne Wilson No. 1 well 13 miles southeast of the Mangold well, shows 41.0 per cent gasoline and naphtha, 10.3 per cent kerosine and 13.7 per cent gas oil. This latter well produces from 3860 feet in a formation topped at 3821 feet and its crude corresponds very closely to that from the Mangold well.

Mangold Well Report

The analysis of the Mangold well shows specific gravity of 0.807, viscosity at 77° F. of 36 seconds, viscosity at 100° F. of 35 seconds, sulfur 0.21 per cent, color, brownish green. Carbon residue of the crude, 1.1 per cent; of the 16 per cent of residuum, carbon residue is 6.7 per cent. Summary of the analysis appears on this page.

With a total of approximately 600 wells in the KMA field, some 40,000 acres of productive territory have been proved to date. It is now believed that this field will be extended to cover at least 60,000 acres when completely defined. Two directions remain to be defined to determine its limits.

Although recent completions number about 15 per week, this rate will doubtless be checked, as the market outlook is not promising for the immediate future. Pipeline proration has established a top allowable of 24 barrels per well over the entire field.

Drilling Contractor Dies

TULSA Aug. 5.—A. B. Reese, 70, president of Reese Drilling Co. of Tulsa, died at his home in Wooster, O., Aug. 1. His widow, two daughters and one son, Albert B. Reese, Jr., engineer with National Supply Co., Springfield, O., survive him. The funeral was in Wooster.

Court Applies Pipeline Tax To Casinghead

N. P. N. News Bureau

LOS ANGELES, Aug. 6.—The Federal Revenue Act of 1932, which imposed a tax on all transportation of crude petroleum and liquid products thereof by pipe line, also applies to casinghead gasoline transported by this method.

This was the decision rendered in case of *General Petroleum Corp. vs. United States*, in which the oil company sought to recover $6194 paid by its predecessor, General Pipe Line Co. of California between June 21, 1932, and December 31, 1934 on pipe line movement of natural gasoline.

Contention was made by the company that casinghead, or natural gasoline is neither crude oil nor a product, but is a product of the gas which comes out of the well with the liquid oil.

The federal court sustained claims of the Government that the words "crude petroleum" had been substituted by Congress for the word "oil" contained in an older act in order to cover products which did not come under interpretations of the former act.

In his decision, federal Judge Yankwich said:

"In view of the state of the law at the time of the enactment and its avowed purpose, I am of the opinion that the Congress intended to designate by the words 'crude petroleum' all the hydrocarbon substances whether in liquid, solid, or gaseous form coming out of an oil well, and that they intended to include not only the gasoline which is mingled with the liquid substance so as to require extraction through various methods, but also the natural or casinghead gasoline contained in the gas coming out at the same time as the oil and which can be captured at the casinghead through separation.

"There is evidence in the record that the word 'petroleum' is understood in the trade to include all the hydrocarbon substances coming out of the well and to include specifically casinghead gasoline."

This decision was of importance to other California oil companies which also have similar cases pending in federal courts. Indications are that the decision will be appealed.

Geologist Drowned

TULSA, Aug. 5.—Floyd Shaffer, 29, geologist for Phillips Petroleum Co. at Ardmore, was drowned Aug. 3 in Lake Murray, near Ardmore. He is survived by his widow and parents.

Hearing Set On Rate Cut To Alabama Points

N. P. N. News Bureau

WASHINGTON, Aug. 9.—Interstate Commerce Commission has agreed to hold hearings on Southeastern railroads petition for a reduction in freight rates on gasoline and kerosine from New Orleans-Baton Rouge group to Florence, Sheffield, Decatur and Guntersville—all in Alabama—without a corresponding reduction in rates from origin points west of the Mississippi River. The rails said the reduction was necessary to meet competition from oil barges on Tennessee river (See N.P.N., July 20).

The Shreveport chamber of commerce, on behalf of refiners in its territory, have protested the proposed rate cut, if not extended to shippers west of the river.

No date has been set for the hearing.

Shell Forms Own Pension Program

ST. LOUIS, Aug. 9. — The adoption of a retirement pension plan for all 27,500 employes in this country and Canada was announced today by Alexander Fraser, president of the Shell Petroleum Corp. and the Shell Pipe Line Corp.

The plan, which will date back to Jan. 1, 1938, in its effectiveness, is designed to round out the company's broad program of social benefits already in force and its form was determined after a careful study of the various factors involved in providing old age security.

The Shell pensions will be provided by the companies without contribution on the part of employes. Normal retirement age is to be 60 years for men and 55 for women, but retirement at these ages is not compulsory. Employes who complete 20 years or more of service and reach normal retirement age while in service are eligible to retire with full pension.

Employes who reach normal retirement age before completing 20 years, but with not less than 15 years of service, will receive "proportionate pensions", for example, 75 per cent of full pension for 15 years' service, 80 per cent for 16 years and so on.

Early pensions may be provided, at the company's discretion, due to ill health and for other reasons. Pensions may also be granted at earlier than age 50, and after 20 years' service, in cases of total and permanent disability. No pensions are to exceed $6000 a year.

The Shell plan has as its object the provision of a pension equal to 40 per cent of the employes' average annual wage or salary during the five years immediately preceding retirement. For members of the company's Provident Fund and for employes receiving a social security pension, certain balancing adjustments are to be made.

The company's contribution of funds to support the plan will be based upon actuarial valuations. It will not undertake to make good investment losses which may accrue to the funds which will be placed in the hands of suitable third parties for administration.

Nevada 'Gas' Tax Receipts

LOS ANGELES, Aug. 6. — Nevada's 4-cent gasoline tax was collected on 3,178,547 gallons in June as compared with 3,840,000 gallons in June, 1937.

Analysis of Crude from New K. M. A. Field

(As reported by the U. S. Bureau or Mines)

	Per cent	Sp. gr.	°A. P. I.	Viscosity
Light gasoline	15.6	0.678	77.2	.....
Total gasoline and naphtha	40.8	0.730	62.3	.....
Kerosine distillate	10.7	0.813	42.6	.....
Gas oil	13.4	0.849	35.2	.....
Nonviscous lubricating distillate	9.0	0.863–0.884	32.5–28.6	50–100
Medium lubricating distillate	6.0	0.884–0.898	28.6–26.1	100–200
Viscous lubricating distillate	....	....	....	Above 200
Residuum	15.8	0.946	18.1	.....
Distillation loss	4.3	.....	....	.....

Auto Maintenance Topics Are On S.A.E. Program At Tulsa

N. P. N. News Bureau

TULSA, Aug. 8.—Nine papers of importance to automotive and oil company technologists will be presented before the regional meeting of the Society of Automotive Engineers at the Mayo Hotel here Oct. 6 and 7. The program has been announced by B. E. Sibley, of Ponca City, Okla., chief technologist of Continental Oil Co., a vice president of the S. A. E., and chairman of its fuels and lubricants activity.

The question of rear engine mounting for automobiles as compared to forward mounting in the conventional manner, one of the live subjects among automotive men will be the topic of a debate between representatives of the engineering departments of Kansas State College and the University of Oklahoma.

Sibley has pointed out that in the program an array of subjects has been included which will be of primary interest to the automotive-minded men in the southwest, as well as to the petroleum group in that huge area. The Petroleum Motor Transport Assn.'s activities are represented in the paper "Automotive Maintenance Problems" by G. L. Wheatley.

Big Attendance Expected

Because of the wide variety of subjects on the program and the fact that nationally known authorities are presenting these technical discussions, a large attendance is expected at these meetings. The southwestern area is one of the largest users of automotive equipment, especially of heavy trucks, buses, tractors and similar equipment in the oil fields and in the refining and marketing branches of the industry.

Because of the long hauls, high temperatures and other characteristics of the region and of the peculiar operating problems of automotive equipment here, the larger users of this equipment have the opportunity to present the results of wide experience under most gruelling operating conditions. To the automotive industry the southwest is one huge service laboratory, where the petroleum and automotive industries come closer together in joint attack on their most severe problems.

The details of the program for the Tulsa meeting as it now stands are as follows:

The Program

Oct. 6—Morning. Chairman: A. V. Bourque, secretary Western Petroleum Refiners Assn., Tulsa.

Motor Tuneup and Servicing, L. L. Fawcett, Auto Electric Co., Ponca City, Okla.

Four-Ball Testing Apparatus; T. B. Rendel and F. L. Garton, Shell Petroleum Corp., St. Louis.

Afternoon. Chairman: Ralph Matthews, Battenfeld Grease & Oil Corp., Kansas City.

Motor Transportation Paper, Representative of Southwestern Bell Telephone Co.

Operation and Maintenance Problems, Relative to Fuels and Oils; Robert Collins.

Evening. Chairman: W. F. Lowe, secretary, Natural Gasoline Assn. of America, Tulsa.

Dinner. 7:00 P. M., Mayo Hotel.

Discussion of S. A. E. activities.

Oil Industry Automotive Maintenance Problems, G. L. Wheatley, Petroleum Motor Transport Assn.

Oct. 7; Morning. Chairman: T. J. Scheutz.

Developing Trucks and Trailers to Portable Drilling Work, J. D. Gordon, Dart Truck Co.

Multi-Cylinder Engine Adaptations in the Oil Industry; H. W. Ladd.

Afternoon. Chairman: Earl W. Pughe, Chevrolet Motor Corp.

Characteristics Relative to Ring Sticking and Engine Cleanliness of Mid-Continent Lubricating Oils; W. P. R. A. Representative.

Methods of Oil Temperature and Control; F. M. Young and W. R. Ramsaur, Young Radiator Corp.

Evening. Chairman: Frank A. Suess, Continetal Oil Co.

Dinner, 7:00 P. M., Mayo Hotel.

Debate: Resolved, that Rear Engine Mounting is More Desirable Than Forward Engine Mounting for Passenger Cars.

Affirmative: Student Representatives, Dept. of Mechanical Engineering, Kansas State College.

Negative: Student Representatives, College of Engineering, University of Oklahoma.

Pennsylvania Lube Stocks Continue Downward Trend

N. P. N. News Bureau

WASHINGTON, Aug. 9. — A further substantial decline in inventories of Pennsylvania bright stock and neutral oils was reported today by the National Petroleum Association for the seven-day period ended Aug. 4.

Bright stock inventories were down 968,653 gallons standing at 18,494,957 gallons on Aug. 4. Stocks of viscous neutral oils dropped 277,192 gallons with the 142-180 vis. oils off 106,162 gallons, and the 180 vis. and above oils down 171,030 gallons.

Inventories of 600 steam refined cylinder stock increased more than 500,000 gallons.

Comparison of inventories on July 28 and Aug. 4, as compiled by the N.P.A. from reports of all companies which refined Pennsylvania crude oil, follows:

	July 28 Gallons	Aug. 4 Gallons
1. Raw Long Residuum (Including all raw long residuum below, and not salable, as 600 fire)	3,251,061	3,033,933
2. 600 Steam Refined (Includes all steam refined stock commonly sold or used as 600 and as raw material for bright stocks)	7,532,630	8,073,125
3. Other Steam Refined (Not included in 1 and 2 above)	7,613,668	7,599,246
4. Finished Dewaxed Long Res.	2,283,035	2,401,809
5. Bright Stock (Does not include any material reported in 4, above)	19,463,610	18,494,957
6. Viscous Neutral, below 180 vis. but not below 142 vis. @ 100	7,730,110	7,558,080
7. Viscous Neutral, 180 vis. @ 100 and above	9,687,644	9,581,482

Burner Shipments Up

N. P. N. News Bureau

WASHINGTON, Aug. 8. — Although shipments of oil burners by U. S. manufacturers in June were more than 800 units greater than in May, shipments were still well below those of June a year ago, according to Census Bureau figures.

June shipments totaled 9,550 burners, compared with 8,732 in May and 14,724 in June 1937.

Shipments during the first six months of 1938 were 45,343 units, compared with 77,342 in the first half of 1937 and 61,252 in the same period of 1936.

These figures are for oil burners and burner units consuming Commercial Standard No. 1 grade of oil, or heavier, used for application to central heating plants for homes, apartments, office buildings, churches, etc.

Gear Lubricants To Be Studied

NEW YORK, Aug. 8.—Organization of a committee to develop classifications for gear lubricants, by the American Gear Manufacturers Ass'n. has been announced.

Representatives of the American Society for Testing Materials, American Society of Mechanical Engineers, Society of Automotive Engineers, and the American Petroleum Institute will co-operate in the work of this committee. This problem has occupied the attention of gear makers, automotive manufacturers and petroleum organizations for some time and the committee is expected to work out more comprehensive classifications than have been available heretofore.

As part of the work of this same general group of technical men a series of articles describing various subjects within the scope of Committee Z-11 of the American Standards Assn. is being prepared, and considerable progress has been made in this regard, the committee reports.

Included in this list of subjects which will be discussed are; Lubricating Oils, by J. C. Geniesse, Atlantic Refining Co.; Gasoline, by T. A. Boyd, General Motors Corp. Research Division; Status of Research on Fuels and Lubricating Oils for Aircraft Engines, by S. D. Heron, Ethyl Gasoline Corp. Other sections will include articles on petroleum greases, diesel fuels, and other fuel oils.

When completed, the American Society for Testing Materials expects to publish these papers in one pamphlet as a comprehensive symposium on the committee's work on petroleum products' standards, it is stated.

1938 'Gas' Demand Up In North Dakota

BISMARCK, N. D., Aug. 9.—June shipments of gasoline, kerosine and tractor fuel into North Dakota were up 6.8 per cent in 1938 compared to the same month in 1937, and up 8.9 per cent for the first half of 1938 as compared to the first half of 1937.

A combined total of 74,249,508 gallons of the three products entered the state in the first half of 1938, as compared to 68,186,088 gallons for the same period in 1937.

Treating Gasolines And Lubes Is Subject of A.C.S. Papers

N. P. N. News Bureau

NEW YORK, Aug. 8.—Twenty-five papers and addresses are scheduled for the Petroleum Division sessions during the meeting of the American Chemical Society in Milwaukee, Sept. 5-9, J. C. Morrell, associate research director of Universal Oil Products Co. and chairman of the Petroleum Division announces.

One of the outstanding papers will be on "Production of High Octane Isoparaffinic Fuels by the Addition of Olefins to Isoparaffins," by A. E. Dunstan, S. F. Birch, F. A. Fidler, F. B. Pim and T. Tait of Anglo-Iranian Oil Co. Ltd., Sunbury-On-Thames, England, a development which that company has been prosecuting for a considerable time, and which has an important bearing on the manufacture of 100 octane number fuels.

Dr. Gustav Egloff, returned recently from an extended European survey, will discuss "The Motor Fuel Economy of Europe." Some 9000 motor vehicles in Europe burn wood products as fuel, it is reported, consuming some 450,000,000 pounds of wood annually.

With Dr. Morrell and other members of the Universal technical staff, Egloff will discuss "The Chemical Reactions of Cracked Residues," and "Studies in Doctor Sweetening," The "Tetraethyl Lead Susceptibility of Gasolines Treated with 'Doctor' Solution Vs. Caustic Washing," an absorbing topic among refining chemists now, will be presented by L. M. Henderson, W. B. Ross, and C. M. Ridgway, Pure Oil Co.

Lead Susceptibility

Further indicating the wide interest in the use of lead in gasoline and details of its use, a new ethyl fluid blending chart has been developed in Shell Petroleum Corp.'s laboratories, and L. E. Hebl, T. B. Rendel and F. L. Garton will show how, by means of this chart, the lead susceptibility of a gasoline may be expressed by a single figure.

In the lubricants and lubrication field J. W. Givens, Shell Development Co., has worked out some interesting facts on "The Effect of Pressure on Viscosity In Relation to Lubrication," a field in which several investigators have been active in recent years. The effect of pressure on lubricating greases will be discussed at length by B. B. Farrington and R. L. Humphreys, Standard Oil Co. of California.

Determination of sludges in used lubricating oils has been a difficult problem and an important one. Frank W. Hall, research director of The Texas Co., with other members of that staff will discuss methods for the determination of dissolved, and of undissolved, sludges in used oils. "Bauxite as an Adsorbent for Pennsylvania Oils," picturing the results of applying this relatively new refining tool, is to be presented by Ogden Fitzsimons, R. G. Capell and G. C. Jones of Floridin Co.

A miniature penetrometer for determining the consistency of lubricating greases will be shown by W. J. Finn, R. J. Harrington and Gus Kaufman of The Texas Co. laboratories.

In the program of fundamental research on the hydrocarbon components of lubricating oil fractions, R. T. Leslie, B. J. Mair, and others of the U. S. Bureau of Standards will present five papers on the distillation and extraction separation of lubricating fractions, and the hydrogenation and constitution of the components found.

Other papers to be given include "Some Factors Affecting the Knock Rating and Lead Susceptibility of Gasolines" by F. G. Graves, Standard Oil Co. of California; "The Determination of Gasoline Unsaturation by Vapor Phase Hydrogenation" by R. D. Pinkerton, A. K. Roebuck, and S. J. Wayo, Sinclair Refining Co.'s development department; and "The Ultra-Violet Absorption Spectra of Simple Hydrocarbons" by Emma P. Carr and Hildegard Stuecklen, Mt. Holyoke College.

Senator O'Mahoney Will Speak At N. P. A. Meeting, Sept. 14

N. P. N. News Bureau

WASHINGTON, Aug. 8.—One of the headliners, billed to speak at the 36th annual meeting of the National Petroleum Assn. at Atlantic City, Sept. 14, 15 and 16, is Sen. Joseph C. O'Mahoney, Wyo., chairman of the monopoly investigating committee.

Sen. O'Mahoney will discuss at the afternoon session, Sept. 14 (Wednesday) the investigation being conducted by his group, which prefers to be known as the National Economic Committee.

On the same program will be Charles J. Brand, executive secretary of the National Fertilizer Assn., who will talk on "The Development and Significance of American Trade Associations.

Final item on the Sept. 14 afternoon program will be a paper by H. O. Forest and J. T. Dickinson, of M. W. Kellogg Co., and W. B. McCluer, Bradford, Pa., Kendall Refining Co., entitled "Propane Dewaxing and Deresining Pennsylvania Lube Oil Stocks."

Trustees of the N. P. A. will hold their meeting the night of Sept. 14.

Opening the afternoon session Sept. 15 (Thursday), there will be brief reports on the association's activities by M. C. Mallon, Harry S. Elkins and Joseph E. Keller.

Then, Joseph E. Pogue, Chase National Bank, will talk on "Petroleum Economics and the General Business Situation."

Washington Observations

Two speakers are slated to give "Some Washington Observations," closing the Sept. 15 afternoon session. They are Turner Catledge, Washington Bureau of New York TIMES, and Carle C. Conway, president of Continental Can Co.

The annual Fellowship Banquet will be held the evening of Sept. 15. A seaview breakfast, at which N. P. A. members and their friends will be guests of Ethyl Gasoline Corp., will be held the morning of Sept. 16.

All sessions, including group meetings on the mornings of Sept. 14 and 15, will be held at the Traymore Hotel. N. H. Weber, Pure Oil Co., will be the N. P. A. vice-president and will open the Sept. 14 sessions and preside. H. A. Logan, Warren, Pa., United Refining Co., another vice-president, will preside at the Sept. 15 general sessions.

Auto Engineers World Congress Set For U. S. A.

N. P. N. News Bureau

NEW YORK, Aug. 6.—A World Automotive Engineering Congress is planned for New York, Indianapolis, Detroit and San Francisco during the period from May 22 to June 8, 1939, John A. C. Warner, executive secretary of the Society of Automotive Engineers announces.

Henry Ford has accepted the honorary chairmanship of the society's advisory board, composed of world automotive leaders. "The society is doing a fine job in bringing together the best technical reports of automotive developments throughout the world," Ford said.

Detailed plans for the technical sessions and the other events of the Congress are under the direction of C. W. Spicer, society president, and Ralph Teetor, chairman of the meetings committee, and are being worked out by committees representing the 10 professional activities (divisions) of the society.

The period of the Congress will be opened by a five-day technical session and dinner in New York, when American and foreign members will also see the New York World's Fair. The Congress will adjourn to Indianapolis for a dinner and to take in the famous 500 mile Indianapolis Speedway classic. Air-conditioned Pullman cars will be used as quarters by the members, who will go from Indianapolis to Detroit to visit automotive factories. A dinner will be given them by the Detroit section of the Society of Automotive Engineers.

A three-day technical session will be given in San Francisco beginning June 6, when the Golden Gate Exposition will be in full swing.

Sues To Recover Taxes

OKLAHOMA CITY, Aug. 5.—Mid-Continent Petroleum Corp. has filed suit in federal court in Oklahoma City against H. C. Jones, collector of internal revenue, seeking recovery of $459,343.30 in gasoline and oil taxes with interest paid under protest in December, 1936. The company contends the sales were made before the effective dates of the laws under which they were levied.

Heavy Fuel Stocks Register First Cut in Months

Residual Fuels Drop 32,000 Barrels Despite Big Increase In California

N. P. N. News Bureau

NEW YORK, Aug. 9. — Resumption of the downward trend of motor fuel stocks and the first decline in inventories of residual fuel oils in many months were highlights of the American Petroleum Institute's report today of U. S. refinery operations for the week ended Aug. 6.

Following the slight upward turn in stocks in the week ended July 30, gasoline stocks dropped 1,484,000 barrels to 75,380,000 barrels on Aug. 6.

Residual fuel inventories declined 32,000 barrels in the face of an increase of 509,000 barrels in California.

Daily average crude runs were down 25,000 barrels.

Substantial reductions in gasoline inventories were reported by the Institute for all districts except Louisiana-Gulf, where stocks were up 104,000 barrels, and Inland - Texas, where stocks increased 61,000 barrels.

Gasoline stocks in the Texas-Gulf district dropped 609,000 barrels. Other large reductions were Indiana-Illinois-Kentucky, 355,000 barrels; California, 214,000; East Coast, 161,000; and Rocky Mountain, 147,000 barrels.

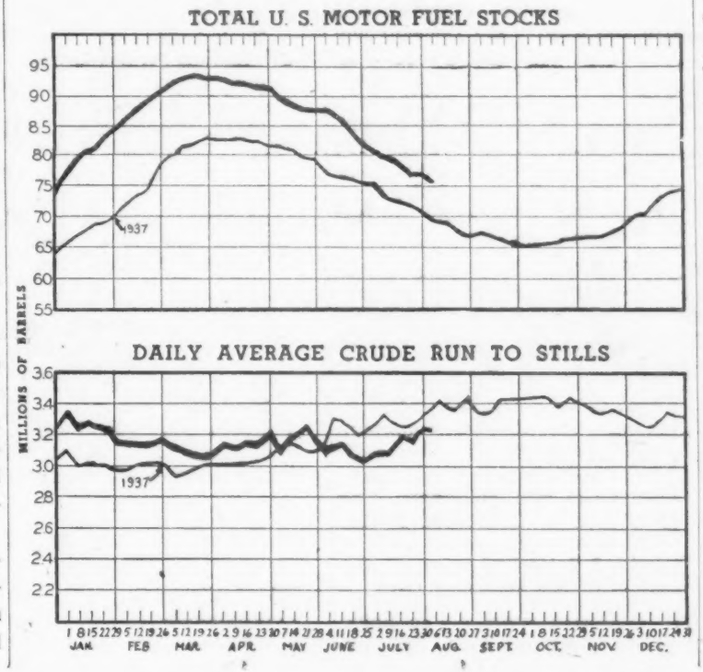
The disparity between gasoline stocks this year, as compared with last year, began narrowing again last week, and the pace of this year's decline accelerated.

Stocks for the country as a whole on Aug. 6 were only 5,730,000 barrels above stocks on the same date last year. In the seven-day period July 30 to Aug. 6, 1937, stocks declined 854,000 barrels, while in the same period this year they declined 1,484,000 barrels, according to the Institute's estimates.

Stocks of gas oils and distillates increased 437,000 barrels, and residual fuels were down 32,000 barrels. Significant declines in residual fuel oil inventories, which partly offset California's 509,000 - barrels increase, were: Texas-Gulf district, 326,000 barrels, and Indiana - Illinois - Kentucky district, 116,000 barrels, indicating a heavy demand for bunker oil in the transportation of this year's greatly increased exports of crude oil and refined products in the one district, and a revival of demand for fuel oil from the heavy industries in the other.

Crude throughput at refineries continued well under a year ago. Daily average crude runs last week totaled 3,215,000 barrels, as compared with 3,395,000 barrels in the same 1937 week.

East Coast runs were up 20,000 barrels on daily average last week, while runs were cut 14,000 barrels in the Inland-Texas district, 13,000 barrels in the Texas-Gulf district and 11,000 barrels in the Louisiana-Gulf district.



DAILY AVERAGE PRODUCTION IMPORTANT DISTRICTS
American Petroleum Inst. Figures

	Week Ended Aug. 6 Barrels	July 30 Barrels
Total Okla....	422,900	422,600
Oklahoma City	106,800	101,650
East Texas....	440,100	439,600
Total Texas...	1,390,800	1,392,150
Kansas	151,750	154,000
Total La.....	261,750	269,450
California	652,400	650,700
E. of Rockies..	2,665,450	2,665,700
Total U. S.....	3,317,850	3,316,400
Crude imports.	34,860	72,140
Tot. new sup'ly	3,352,710	3,388,540

Flash — NLRB Dismisses C.I.O. Complaint

N. P. N. News Bureau

WASHINGTON, Aug. 8.—National Labor Relations Board has dismissed charges made by Oil Workers Union that Southport Petroleum Co., Kilgore, Tex., had refused to bargain with the union.

At the same time, however, the board ordered reinstatement, with back pay, of three company workers whom the union had charged were discharged for union activity. The board found that a fourth had not been discharged for union activity, and dismissed the union's charge.

The Board likewise ordered a secret ballot election among the company's refinery employes at Texas City, Tex., to determine whether they want to be represented for collective bargaining purposes by Oil Workers Union, which is affiliated with the Committee for Industrial Organization (the C.I.O.).

CURRENT REFINERY OPERATIONS

Districts	Per Cent Capacity Reporting	Daily Average Crude to Stills (Barrels) Week Ended		Per Cent of Reporting Capacity Operated Week Ended		Stocks (Thousands of Barrels) Total Finished and Unfinished Motor Fuel* Week Ended		Stocks of Gas and Fuel Oil Gas Oil and Distillates Week Ended		Residual Fuel Oil Week Ended		Total Week Ended	
		Aug. 6	July 30	Aug. 6	July 30	Aug. 6	July 30	Aug. 6	July 30	Aug. 6	July 30	Aug. 6	July 30
East Coast.....	100.0	486,000	466,000	72.6	69.7	21,152	21,313	5,622	5,686	7,617	7,645	13,239	13,331
Appalachian.....	88.4	103,000	105,000	79.8	81.4	3,138	3,165	231	229	876	879	1,107	1,108
Ind., Ill., Ky.....	92.4	437,000	437,000	89.4	89.4	12,302	12,657	3,326	3,335	5,890	6,006	9,216	9,361
Okla., Kans., Mo.....	84.7	287,000	285,000	74.9	74.4	6,512	6,548	1,103	1,053	3,195	3,199	4,298	4,252
Inland Texas.....	56.6	134,000	148,000	66.7	74.6	2,148	2,087	423	399	1,552	1,477	1,975	1,876
Texas Gulf.....	95.7	759,000	772,000	95.2	96.9	9,336	9,945	5,137	4,788	7,466	7,792	12,603	12,580
La. Gulf.....	96.6	119,000	130,000	70.8	77.4	2,548	2,444	1,248	1,233	2,078	2,177	3,326	3,410
No. La., Ark.....	63.7	34,000	39,000	58.6	67.2	515	525	297	293	534	533	831	826
Rocky Mt.....	69.7	39,000	44,000	62.9	71.0	1,486	1,633	123	131	709	750	832	881
California.....	90.9	509,000	504,000	68.2	67.6	12,453	12,667	9,840	9,756	84,492	83,983	94,332	93,739
Total Reporting....	89.0	2,907,000	2,930,000	78.5	79.1	71,590	72,984	27,350	26,923	114,409	114,441	141,759	141,364
Estimated U. S. Total (Bur. of Mines Basis)		3,215,000	3,240,000			75,380	76,864	28,010	27,573	116,689	116,721	144,699	144,294

*Includes stocks at refineries, in bulk terminals, pipe lines and in transit.

Ellick Botts Pictures Oil Industry Borrowing O'Daniel's Hill-Billy Band

To the Editor:

If one can judge by the results in Texas, the way to get anything done and to win a battle now is to give the people plenty of entertainment. You will sense at once that I refer to the big victory won by the Hon. W. Lee O'Daniel, who ran for governor with two fiddles, a gittar and an accordian. His opponents were orthodox and discussed the fine points of running a government, but Mr. O'Daniel knew his people and finished with a big majority and a glissando on the black keys.

I was just wondering whether it isn't time to put such methods to work on worthwhile causes, other than running for office. We have a lot of issues lying around in the oil business on which we are making no progress at all. We argue them back and forth and nobody pays us much attention, which means simply that the world is tired of hearing arguments and reasons for doing things. It wants to be approached with anything except appeals to the intellect, so, I say, let's give the people what they want.

Let us look into the future and imagine how the news would read if we went about things in the way that Mr. O'Daniel has demonstrated to be the winning way. Here we go:

Necrosis, Ala. — The American Petroleum Industries Committee today opened its campaign for reduction of the gasoline tax. Two hillbilly bands, recruited in Brooklyn, alternated in playing familiar tunes and a beauty contest was staged to select "Miss Reasonable Gas Tax, 1938." Judging from first results, the campaign will be successful, as the entire population of this town vowed to lynch their representative in the legislature unless he got busy right away.

Too, S. D. — Mules ordinarily are just mules, but the troupe of performing mules which appeared here today, in the words of Uncle Hec Cubbins, "beat anything I ever saw." The animals were brought here by the Committee for Wider Dealer Margins and local wider dealers predict victory within two weeks.

Escrow, Okla. — Organization of the Escrow Oil Development Club has been completed and an active campaign will be started at once to put public pressure on oil companies to find some fields in this region. The House of David band and baseball team will present the arguments for wildcatting in this heretofore neglected area.

Madison, Wis. — The jury in the second alleged oil conspiracy case returned a verdict of acquital today without leaving the box. The government relied on old-line football all the way, using witnesses and argument. The defense countered with a trope of performing seals and an exhibition of sawing a woman in half, or halves. The jury was so impressed by the defense's presentation that it decided there had been no violation of the anti-trust laws.

Edgewise, Kans. — To judge from sentiment here, the governor's proposal to levy a tax on oil production will be hopelessly beaten in the next legislature. Public feeling against the governor crystallized quickly at the conclusion of the barbeque and picnic sponsored by the Oil Producers Sodality, a feature of which was an exhibition of fire-eating by Pyro the Great.

Washington, D. C. — Despite the appearance in Congress of Pres. Roosevelt, who repeatedly called each member, "my old friend," there will be no relaxing of the tariff on imported oil, as proposed by the State Department. This was decided today when independent oil operators presented the facts to Congress, called into joint session. Spokesmen for the oil men were the American Open Golf Champion, who gave a demonstration of chip shots, and a wrestling match between a man and a bear.

Adipose, Vt. — The gasoline price war which has raged in this region the past month came to an end last night. The offending dealers attempted to popularize their cause but were given to understand clearly that the public were for stable prices. Price-cutters made the mistake of including a saxophone in their hill-billy band.

So, you see how it might go. I hope that you will communicate with me when you hear of such adaptations of the O'Daniel plan, as I have several good ideas that might be used.

Yours truly,

Ellick Botts,
Consulting Pumper.

Kentucky Oil Marketers Plan Golf Match

LOUISVILLE, Ky., Aug. 9.—The "divot diggers" will swing into action on Kentucky hillsides Sept. 8, when the Eighth Annual Oil Men's Golf Tournament will be held at the Big Springs Golf Club here. Two championship trophies will be awarded. The tournament is sponsored by the Kentucky Petroleum Marketers Assn.

The low handicap trophy is awarded permanently to the individual who first wins it twice. This trophy has been in competition three years, and was won in 1935 by E. L. Heger of Cincinnati, in 1936 by J. J. Kirchner of Louisville and in 1937 by Joe Hodes of Louisville.

The low gross trophy has been in competition two years. C. W. Healy won this championship in 1936 with an 80, and Middleton De Camp was 1937 champion with an 85. The permanent award goes to the one winning it three times.

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Refining Technology

Diesel Test Method May Have Important Effect on Refiner's Economy

By Arch L. Foster

Technical Editor

● That refining operations are controlled in the last analysis by the test methods used to determine product qualities, appears to be a broad statement, but we believe it to actually be the case. When, for example, an industry spends millions to develop a test method which will give the most dependable results in determination of a given quality, as was the case when the present L-3 octane number method and its predecessor methods were developed, that money is not spent to vent community spleen against a competitor or an opponent.

It is spent, and the time of high-caliber engineers, hundreds of them, is spent to develop a method which will be least expensive to the refiner, in producing, in this case, a motor fuel which would meet the market's demand for anti-knock quality. The result, while not perfect by any means, is doubtless the best that could be evolved to meet the widely varying needs and interests of a huge industry still afflicted with growing pains.

Now a new method for testing the ignition quality of diesel fuels is to be presented before the Co-operative Fuel Research Committee in September for consideration as a probable standard test method. The CFR Committee will take such action as it deems best after a comprehensive study of the entire method and of that phase of the oil and automotive industries directly affected thereby. An estimate of the importance of these methods can be gained by considering the amount of time spent in their development and the deliberation and care used in reaching decisions.

Meantime the American Society for Testing Materials is planning to publish the text of this test "for information", a customary procedure of that body to disseminate information on a new development which has not yet reached the stage of adoption as a tentative standard. The method has been developed to its present state first by a Volunteer Group under the direction of T. B. Rendel, Shell Petroleum Corp., as chairman, and more recently by the same group as the Diesel Fuels Division of the CFR. As was the case with the method of test for anti-knock quality of motor fuels, the ASTM will very possibly investigate the method and eventually adopt it with or without further research or change from its present specifications.

The present method may or may not be in suitable form for a set standard test method to be used by the industry throughout as a yardstick of ignition quality for the increasing quantity of diesel fuels consumed in this country. An appreciation of the caliber of the group which developed it indicates that relatively little, if anything, remains to be done to make it into a practicable method for commercial use. Polishing of smaller details, or wording, of explanation, seems to be continually necessary on all important test methods to keep them up-to-date or to put them into final form.

The problem of instrumentation has been a difficult one. To the developing of instruments which would register differences in ignition quality, more time has been given than probably to any other phase of the job. The present system of instrumentation involves a fixed-delay method which includes neon lights on the periphery of the flywheel, which are operated by contact points on injection and combustion indicators. It is understood that this system is being studied intensively to collect as much data and experience as possible between now and September.

Whatever the final decision may be—and no decision on test methods can be final for long—the test should not give ratings which needlessly penalize the refiner, should not require him to produce fuels of higher quality by test ratings than are required by the commercial engines in which the fuels are used.

Above all, if possible, every organization and individual involved in the matter should make every effort to prevent sales departments, users—and editors as well—from the reasonless emphasis on infinitesimal differences in numerical value of laboratory cetane number ratings which mean absolutely nothing in the operation of engine or in the comparative ignition quality of the fuel. These midget differences are usually far smaller than the test is capable of differentiating, and only place needless and foolish burdens on overworked manufacturing departments trying to meet a fancied competition which is worthless and misleading.

The industry has already had enough of that sort of mild ridiculousness with hair-splitting octane numbers to outlast the industry's lifetime.

●

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Diesel Test Method May Have Important Effect on Refiner's Economy **R-369**

"Midget" Poly. Plants Shown Successful ... **R-371**

2800 gallons of polymer gasoline from a quarter-million cubic feet of cracked gases, having 100 blending octane number is produced by small polymerization unit in one Michigan refinery; 1500 gallons produced from 175,000 cu. ft. of gas in a second plant boosts gasoline yield more than 3%.

Leonard's 'Poly' Unit Eliminates Benzol Blending for Anti-Knock **R-378**

Activities of Equipment Manufacturers **R-382**

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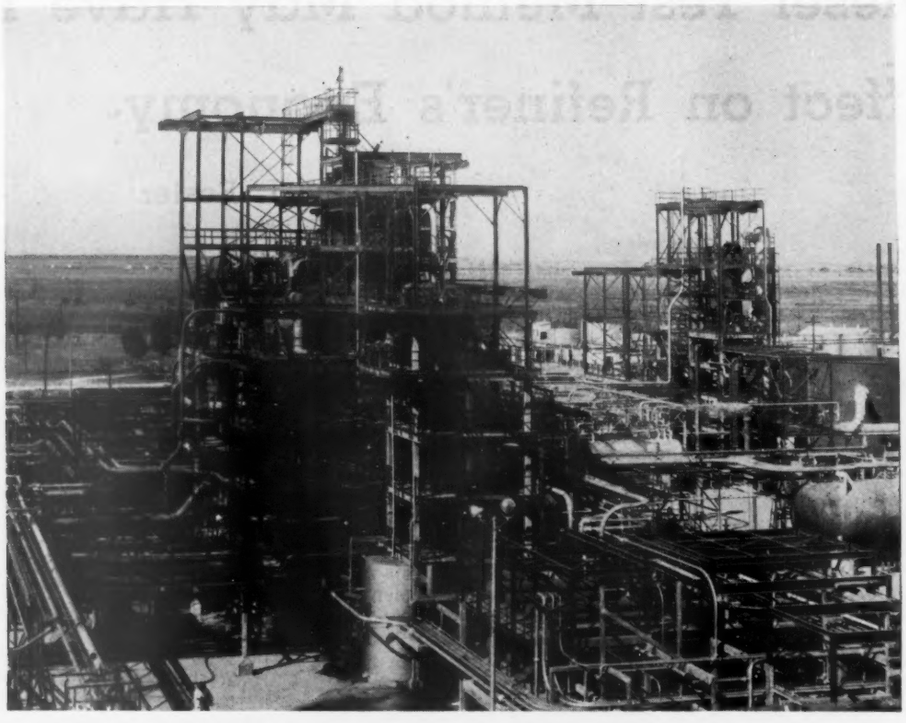
THERMAL POLYMERIZATION



LARGE THERMAL POLYMERIZATION PLANT

IN CONJUNCTION WITH COMBINATION TOPPING AND CRACKING UNIT

The Thermal Polymerization Unit shown in the above illustration handles over 2900 barrels per day of liquid condensed from low commercial value refinery gases and produces a premium grade motor fuel.

The economic value of the flexibility inherent in thermal polymerization units—due to the fact that the charging stock can consist of either saturated or unsaturated gaseous hydrocarbons—or both—should be investigated by refiners and natural gasoline plant operators through this organization or its agent, The M. W. Kellogg Company.

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THE POLYMERIZATION PROCESS CORP.
15 EXCHANGE PLACE • JERSEY CITY, N. J.

"Midget" Poly. Plants Shown Successful

By Arch L. Foster
N. P. N. Technical Editor

Photo courtesy Stovall Studio, Alma, Mich.

Fig. 1. The small polymerization unit shown in the front of this picture has increased by about 5 per cent the gasoline yield from Michigan crude at the McClanahan Refiners' plant, St. Louis, Mich.

THE design, construction and results of operation of the two small Universal catalytic polymerization units in two Michigan refineries, described in the following pages, are of such widespread interest and importance to the refining industry, particularly to the small refiner, that these articles have been written as soon as incontrovertible results could be obtained from the plants' operation.

Both units have now been operated long enough and the results are conclusive enough on the credit side that company officials are not concerned with the possibility that later information will change results adversely. In fact the operators are convinced that the results here reported can and will be improved considerably by greater experience in operating the units, from which experience the optimum conditions may be determined.

The potential importance especially to the smaller refiner of this new development of a relatively new process for the industry is hard to estimate but it is not difficult to decide that this is one of the most useful achievements brought out in processing for a long time. The opportunity to increase yields and octane numbers, to reduce lead consumption and plant losses which appears certain for the small as well as the larger refineries, will not be overlooked in these days of strong competition and diminishing financial returns to the refiner.

Given 3% to 5% additional yield of gasoline from the crude, and a gasoline which is really a very high octane number blending stock, the small refiner will find himself more nearly on a par with larger plants. Most technologists heretofore have been dubious of the economics of ultra small polymerization units, while others have felt certain that units of less than several million cubic feet capacity could not, in the nature of things, prove economical. The data here given indicate that the small unit can be operated successfully and economically.

Because of the relative importance of this development to the 135 smaller refineries in this country with a total crude capacity of more than 2,000,000 barrels per day, which are potential users of these small units, NATIONAL PETROLEUM NEWS here presents for the first time in any publication the first-hand results obtained from actual operation of these so-called "midget" polymerization units.

PROCESSING a quarter of a million cubic feet of cracked distillate stabilizer "tops" per day for a yield of 2600-2800 gallons of polymerized gasoline of 83-85 octane number is all too brief a statement of the accomplishments of what in many ways is one of the most important pioneering developments in refining technology in the last decade.

Carried out in the face of considerable misgiving as to the practicability of such small units, two such plants are in operation in Michigan under Universal Oil Products Co.'s patents, and so successful have the operations proved that the refining picture of these plants is completely changed, their officials enthusiastically assert.

The two poly. plants are installed in the refineries of McClanahan Refineries, Inc., St. Louis, and Leonard Refineries, Inc., at Alma, three miles away. The latter company processes less than 200,000 cu. ft. of gas per day, and produces some 1500 gallons of polymer gasoline of approximately the same characteristics as the product from the McClanahan plant.

The McClanahan unit cost was considerably less than

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R-372

the original estimates, and the plant was completed for a total cost well under $10,000, the labor being furnished by the plant personnel. In its initial 36½-day run, the plant has paid for itself, and paid for the catalyst used, with a neat sum in addition to confirm the enthusiasm and confidence of company officials and technologists.

Ever since catalytic polymerization of olefin gases became a commercial success it has been practical in larger units, for the larger capacity refineries. Nearly 30 units have been installed in this country and several abroad, processing quantities of gas from about 3,000,000 cu. ft. to 27,000,000 cu. ft. per day. A dozen or more units operating on the thermal principle have also been installed, with the result that a large percentage of the refining capacity of the country is now equipped to polymerize the otherwise practically waste gases from the industry's cracking stills.

This advantage has been all for the larger refiner. It has not been by any means certain that the small refiner would find this useful tool of any value for handling the small quantities of gas which the refinery of 3000-10,000 barrels per day will supply for processing. Unit costs were at first considered to be high enough to make units handling less than three to five million cubic feet of gas too expensive per gallon of product to warrant their installation.

The Michigan refiner is in a peculiar position. A large number of heavy gasoline-consuming centers are within economic reach of the Michigan refineries. Michigan crude, however, with the exception of some small production from the Traverse formation, is more paraffinic in its light products than is Pennsylvania crude. The octane number of the straight-run gasoline is practically a disappearing value, most of it being 40 and well below. Also, the crude is refractory and requires severe conditions for advantageous cracking. Cracked gasoline from it, is usually around the middle 60's in octane number. By reforming McClanahan has a higher octane number than can be produced by cracking Michigan reduced crude. Tetraethyl lead, benzol or other blending agent must be used, at considerable expense, to bring its octane rating up to a competitive value. Otherwise the typical Michigan motor fuel must be sold at third-grade prices or, worse still, the straight-run product at a "fourth grade" price, with a practically disappearing margin to cover the refining cost.

As the octane number of the average fuel on the market continues to rise, slowly but inexorably, less and less demand exists for a sub-third grade fuel which will not operate satisfactorily in modern engines designed for a 70-72 octane number fuel. Retarding sparks, and other methods used to enable the engine to operate on such fuels without serious knock are not satisfactory because of the loss of power and efficiency and the lowering of the high standard of performance to which most motorists are accustomed. Needless to say, the margin for the refiner at the present price of crude is small and becoming smaller.

As a result of this trend in gasoline quality, and the special problems encountered in refining Michigan crude, those refiners in Michigan who wish to stay in the refining business are gradually acquiring the most modern equipment and processes to handle their refractory crude. More than two years ago the McClanahan company built a 1250-barrel Dubbs reforming unit, in which now both heavy naphtha and kerosine fractions are cracked to bring up the octane number of the final product. In this operation with a refractory crude, relatively large quantities of gas are produced, containing large percentages of C_3 and C_4 olefins. Analyses of overhead products from the cracked distillate stabilizer are shown in Table 1, where nearly 40%

TABLE 1

Analyses of Stabilizer Overhead Used as Charge to Polymerization Unit, McClanahan Refineries Plant

Component	Gas from Reforming gasoline	Gas from cracking kerosine
CH_4	1.8	—
C_2H_4	2.5	1.9
C_2H_6	12.7	3.4
C_3H_6	20.0	16.4
C_3H_8	22.9	26.6
C_4H_8	21.5	33.5
C_4H_{10}	17.1	17.9
C_5 and heavier	1.5	0.3
	100.0	100.0

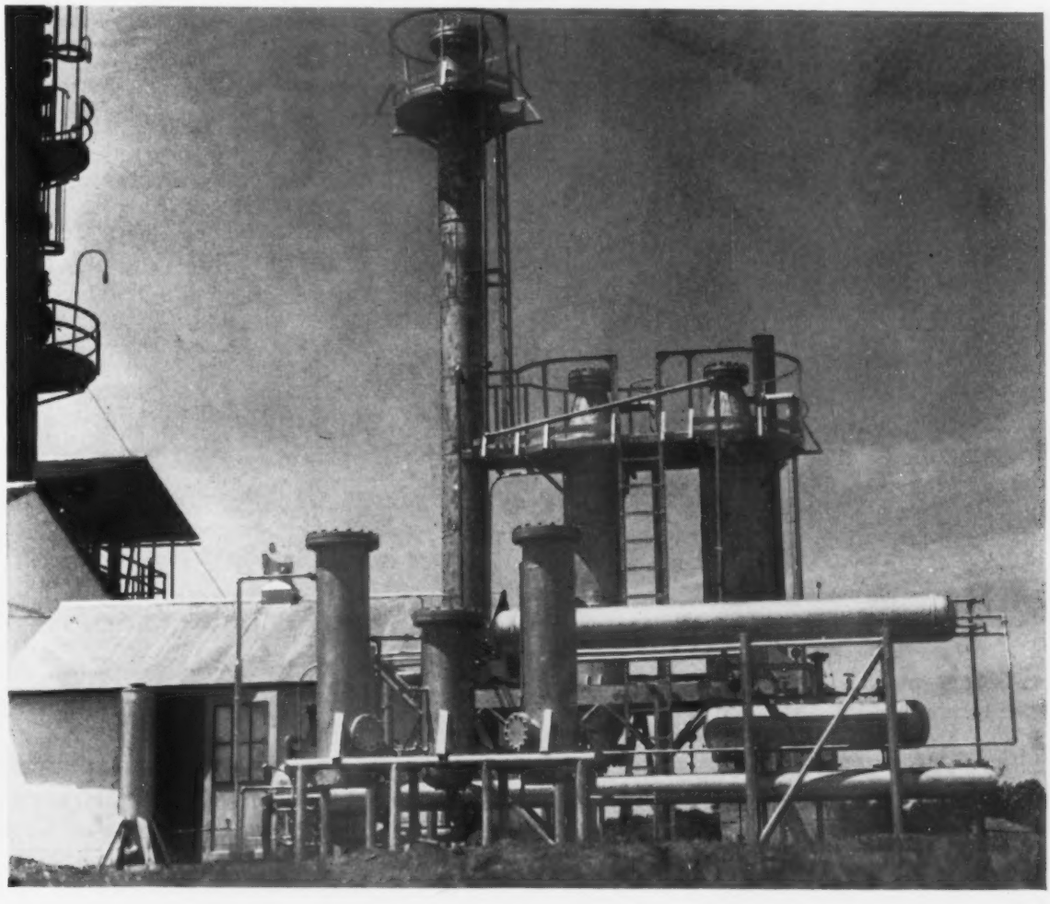

Fig. 2. The McClanahan polymerization unit, showing the copper treating unit and coolers in foreground, stabilizer and catalyst towers in background

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One of the largest single unit pressure distillate fractionation plants in the world is the Alco-designed-and-fabricated unit in Iran.

Unstable pressure distillate is processed in a 9 ft. x 70 ft. debutanizing tower for close fractionation. Reboil heat of 25,500,000 BTU/hr. is supplied by circulation of tower bottoms thru a furnace operating at an efficiency of 74%.

95% of the butane and lighter fractions are removed, and 99.6% of the pentane and heavier fractions are retained.

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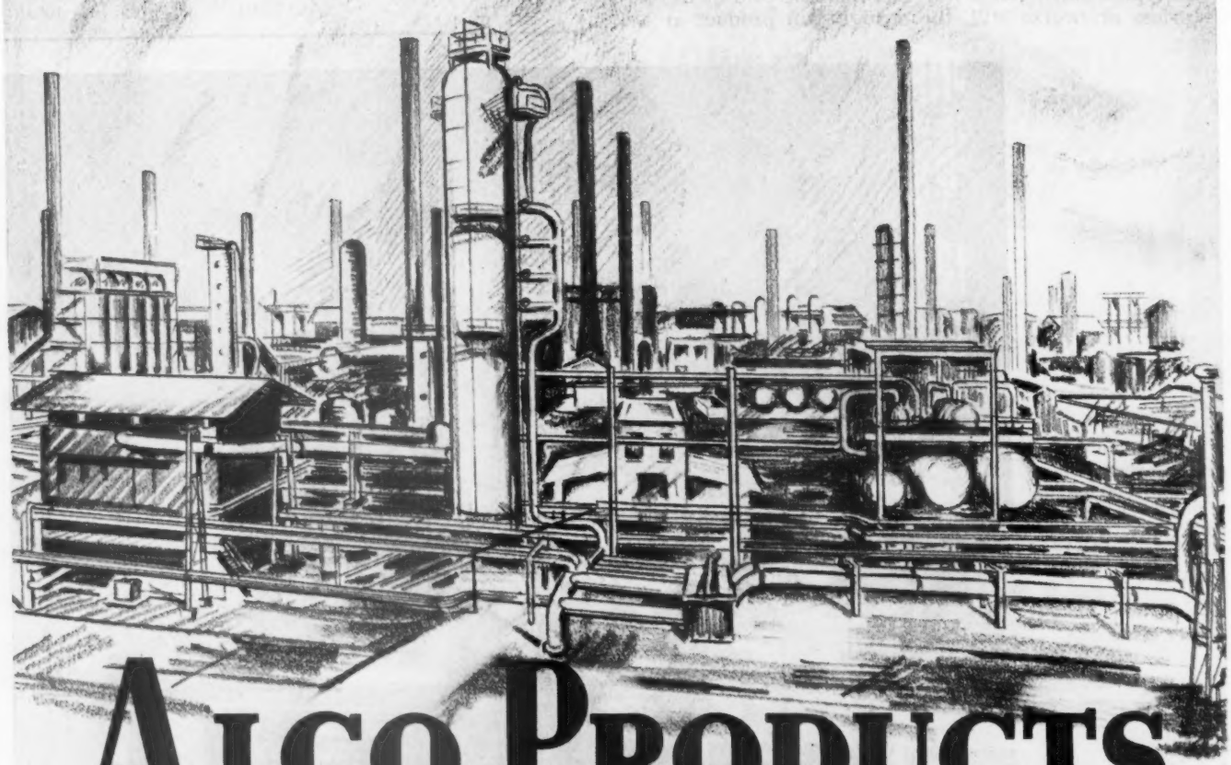

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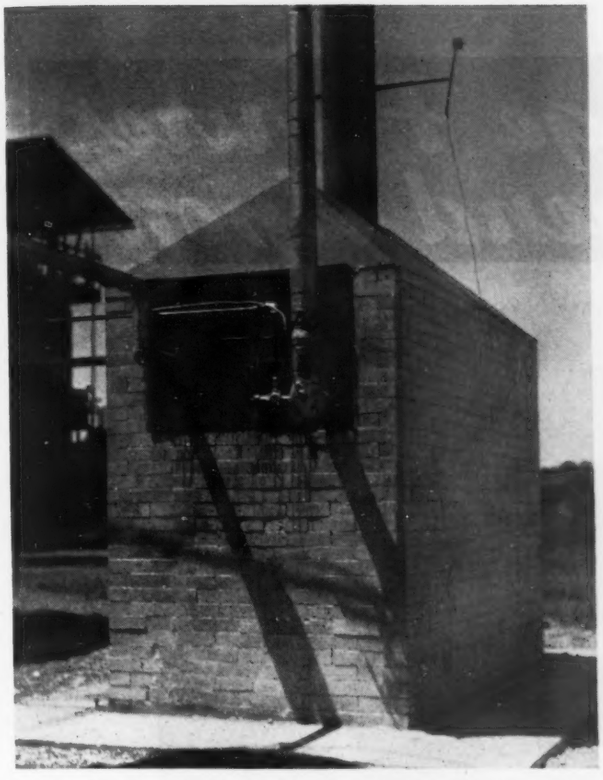

Fig. 3. Heater of the McClanahan polymerization unit, showing the outlet to tht transfer line, thermocouple lines and the steam superheater coil outlet

of propene and butenes are found in the stabilizer overhead from reforming naphtha, and 50% of these olefins are produced in cracking kerosine fractions.

Realizing that yields from the reforming unit were lowered appreciably by this gas loss; realizing just as acutely that the octane number of the finished motor fuel was suffering by the loss of the potentially high blending material which can be produced from these olefins, the possibilities of polymerization on an ultra-small scale were investigated. Dubbs engineers were consulted, the estimates were made, and the unit built. In less than 40 days it had paid for itself, yield was increased by 8 to 9% of the reformed gasoline, and the octane number improvement exceeded the original expectations, McClanahan officials affirm. Operation of this unit has permitted operation of the reforming unit under less severe conditions with an appreciable saving in operating costs and gas loss.

After starting the polymerization unit, reforming unit operating conditions were changed to produce a lower octane number on the reformed gasoline, about 66. This resulted in increasing the reformed gasoline yield by about 7% and, by blending with the polymer product, the finished gasoline is maintained at a full 70-72 (L-3) octane rating. Should the management decide to, or need to, produce a higher octane number finished gasoline, the reformed gasoline octane rating can be raised by two or three numbers, with a corresponding reduction in yield. And, even though at some time it were decided to produce a 74-76 octane finished motor fuel, the total yield of reformed and polymerized gasoline would be increased by 4% to 5%, company officials point out.

The fresh feed to the polymerizer averages about 270,000 cu. ft. of stabilizer tops per day. The first run lasted 873 hours; for this run 31.5 gallons of polymer were produced per pound of catalyst, with an olefin conversion of 89%. Upon opening the catalyst towers, it was found that the surface of the catalyst in the second tower (towers are in series), was thoroughly carbonized, so much so as to completely destroy the effectiveness of the catalyst, which is the UOP phosphoric acid.

This carbonizing is credited as the result particularly of one instance during the run when the catalyst temperature in the tower "got away" for a time and ran very high, up to around 600° F. With the finished unit under exact control this incident and its result should not occur again. The gasoline production on this run was at the rate of 31.5 gallons per pound of catalyst, considerably higher than the original estimate. The next run is expected to produce a greater yield per pound because of various small changes in operating conditions. The first run product shows an octane number of 85-87 (L_3), and a blending value of about 100.

The major items of equipment used in this unit are: diesel engine and the compressor operated by it; stabilizer reflux pump; two vertical catalyst towers, stabilizer tower; two heat exchanger type coolers, one for the polymer from the catalyst, and one for the stabilized polymer; a simple furnace heater, and a dozen control, indicating and recording instruments. A three-tower copper treating unit to treat the raw polymer to eliminate mercaptan sulfur was installed shortly after the second run began.

The diesel engine is a Reid, 35 H. P., 10½″ x 12″, operated on gas oil produced in the plant. The Pennsylvania compressor has 28½ cu. ft. free volume displacement, its crankshaft fitted to that of the engine. The Worthington steam pump is a Hivol, 6″ x 3″ x 8″.

The other items of equipment were all built by the company staff at the plant, and the cost was extremely low. The furnace is a simple box or rectangular type, firebrick lined with plain brick outside, and a very small burner set at the bottom, controlled by an automatic fireman valve actuated from the transfer line thermocouple. The heating coil is 28 tubes of 8′ length, 2″ i.d. and 2⅜″ o.d., of plain carbon steel. The two bottom rows of tubes form a radiant bank, the remainder are heated by convection. The furnace at the top ends in a pyramidal breeching to the stack, and just below the pyramid is a steel baffle perforated with 1″ holes on 4″ centers to deflect the combustion gases. A steam superheater coil contains 8 sq. ft. of tube surface, the superheated steam being used in the stabilizer reboiler.

The two catalyst towers are fabricated from 24″ seam-

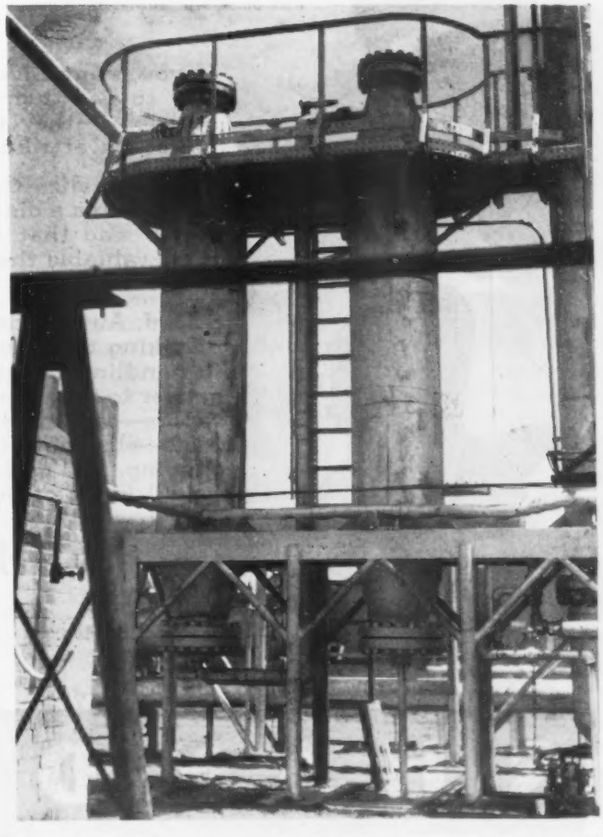

Fig. 4. Two catalyst towers, 14 feet x 24 inches in diameter in the McClanahan polymerization unit

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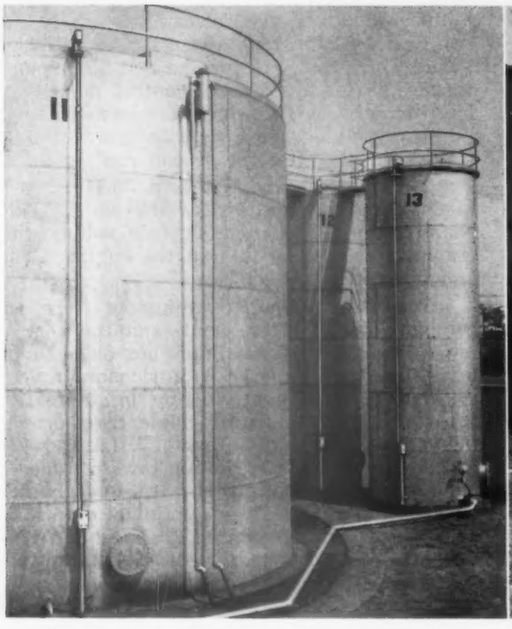

Partial view of one of the bulk storage plants of a major oil company. Every tank is equipped with an S. & J. Automatic Gauge.

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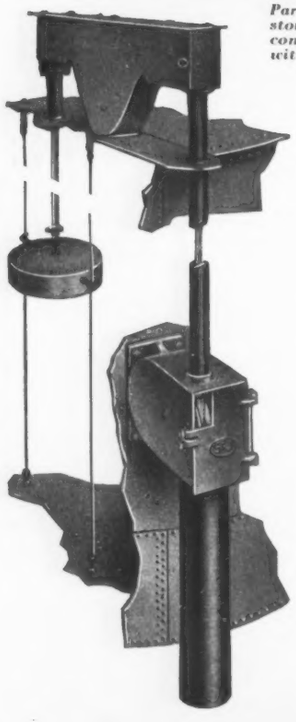

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less line pipe with ⅝" wall, 14' long with steel cones welded on top and bottom and will each hold 1500 lbs. of catalyst. At the bottom a 16" circular opening is provided for dumping catalyst, at the top a 12" opening for refilling the tower. In the tower bottom is a perforated plate covered by 10" of broken firebrick. The stabilizer is a 30' section of 18" seamless pipe, in which is placed a 25' section of ½" x ½" carbon raschig rings instead of bubble decks.

Since a slight amount of moisture is required in the gases to improve the polymerization reaction, condensate from the reboiler steam coil outlet is charged from a tank made of 6"-pipe to the compressor discharge line at the rate of 0.20 mol per cent of the charge stock. This water is added by a Hills-McCanna ½" bore, adjustable stroke pump, mounted on the stabilizer reflux pump and actuated by the latter.

Most of the transfer lines used are 2" internal diameter. One tubular cooler lowers the temperature of the polymerized product after it leaves the towers, to the temperature at which it is released into the stabilizer. The reboiler is of the heat exchanger type, heated by a closed steam coil. The second cooler, cools the stabilizer bottoms to the desired temperature before being pumped to storage. With the copper sweetening unit on the line, this cooled product will pass through its own separate sweetening system before going to storage.

Operating Details

The cracking plant stabilizer tops are picked up by the compressor at a temperature below 160° F. The pressure is raised to about 400 lbs. or higher or lower as conditions require. Furnace outlet temperature may be maintained below 400° F., and as the reaction is strongly exothermic, the temperature is near 500° F. as the polymer leaves the first tower. Since in this run the first tower accomplished all or practically all of the polymerization reaction, the temperature actually was lowered appreciably in passing through the second tower. The tower temperature will depend on the relative amount of conversion which takes place in each tower, the greater the percentage of olefins polymerized the higher the temperature.

The raw polymer is cooled to enter the stabilizer at 175-200° F. The reboiler steam is raised to 490-500° F. which is sufficient to raise the bottoms to 275° F. at which temperature bottoms flash into the tower, the reboiler being kept full of liquid.

The stabilizer overhead is cooled to provide reflux liquid, and the uncondensed gases are led to a T which connects with the compressor intake line, and to the fuel gas line. The best conversion in the polymerizer towers is obtained with 25-30% total olefins in the gas. Therefore, some of the already processed gas is recycled when it is necessary to dilute the charge gas to the desired olefin concentration, an automatic valve being provided in the fuel line end of the exit gas system. As the whole system is under compressor inlet pressure, when the compressor suction pressure drops, recycle gas is drawn into the intake line to mix with the charge gases. If this compressor intake pressure rises above that of the fuel line pressure, the automatic valve opens and recycle gas is discharged from the system to fuel.

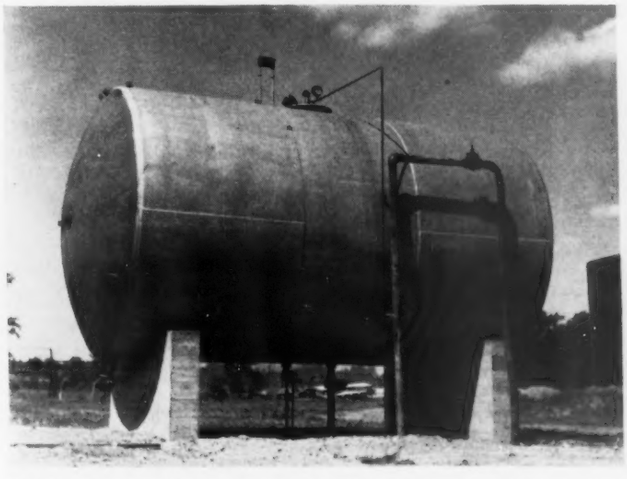


Fig. 6. Special blending tank, in which fuels to any desired specifications may be blended to sales requirements

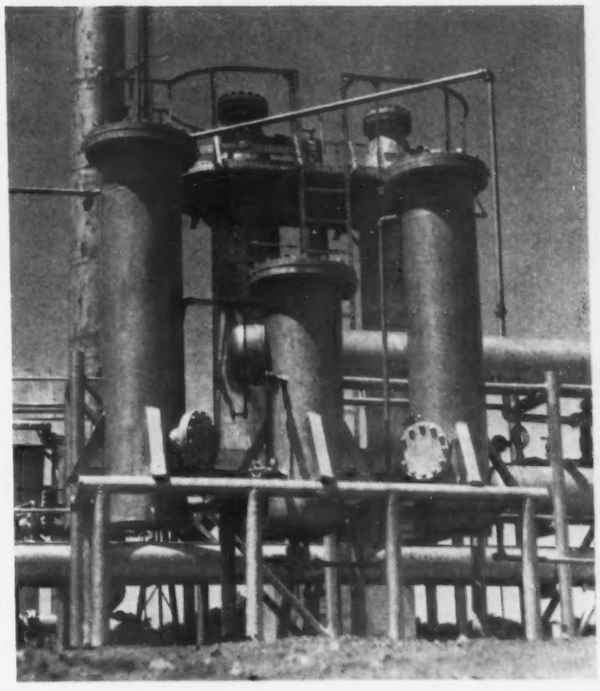


Fig. 5. The three-column copper treating unit was the last installation in the polymerizer unit

The Product

The polymer from this unit is notable for being remarkably heavy, in comparison to that from larger and more conventionally operated units. Its gravity and distillation range are given in Table 2. In order to maintain as much of the charge in a liquid state as practicable, relatively high pressures are used through the process. Company engineers are convinced that passing the charge through the towers in liquid form aids in washing out the heavier trimers and other heavy products formed, which heavy ends are retained in the final product, giving it its higher gravity and lower vapor pressure. The product from the unit is about 22 lbs. vapor pressure, of which about 70% is 10 lb. gasoline.

The raw product is relatively high in mercaptan sulfur, that is, relatively high considering the sulfur contained in the original charge. Having been treated along with the pressure distillate during the first run, no average exact figures on mercaptan sulfur are available before and after treatment. The copper process has now been used long enough to show that the product is entirely sweet with

TABLE 2

Distillation Analysis of Polymer Gasoline

Gravity,	71.3 API.
Initial B.P.	82° F.
5%	98
10	122
20	180
30	210
40	226
50	242
60	272
70	320
80	384
83	420
Endpoint	440

Doctor test—negative.
Vapor pressure—29.3 lbs. Reid.*

*The vapor pressure of 29 lbs. is necessary to bring the vapor pressure of the total stream up to 8-8½ lbs. Reid.

only traces of mercaptan, most of the time with no trace at all.

As stated earlier, the total cost to the company for this installation was less han $10,000, labor being supplied by the refinery staff. Including the catalyst charge the cost was entirely wiped out by the value of the products made during the first run. Regenerating equipment can be fitted into this process as simply as in any larger capacity, with corresponding increase in cost. Later runs of the unit may likely determine whether or not regenerative equipment will be added.

The company values this polymer product at a price well above the regular cracked gasoline produced. Since its blending value is as high as 100 octane number, and since the polymer made is some 8-9% of the reformed gasoline, its value is greatly enhanced both for the volume of gasoline added to the plant's output per barrel of crude, and because of the increase in octane number of the finished blend, the octane number being raised by 1.5 to 2.5 numbers.

Our thanks are expressed to D. E. Foster, McClanahan company manager, and to E. F. Sondregger, superintendent, under whose supervision this unit was built and is being operated, for their co-operation in furnishing data presented in this article.

* * *

Leonard's 'Poly' Unit Eliminates Benzol Blending For Anti-Knock

THE operators of the plant of Leonard Refineries Inc., at Alma, Mich., do not have the same plant operation as the McClanahan company, but they had the same difficulties to face—raising the octane number of the gasoline produced without expensive blending material or the use of lead or other anti-knock agent; increasing the gasoline yield per barrel of crude and the total gasoline output of the plant that is possible with its primary distillation capacity.

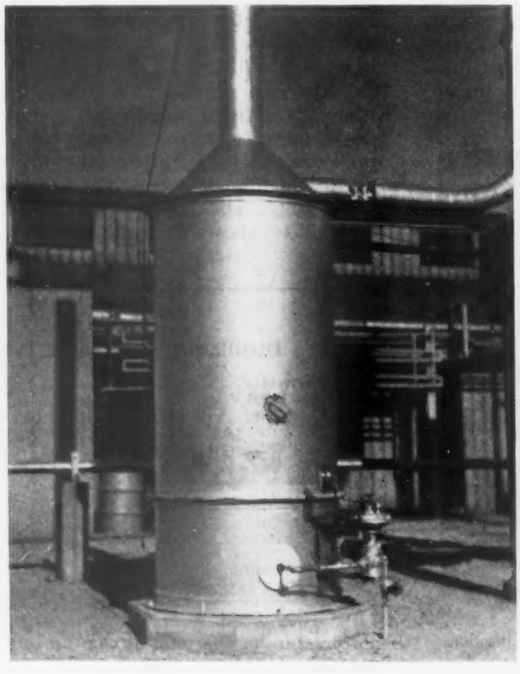
The available stabilizer overhead gases at this plant amounted to about 175,000 cu. ft. per day, with production reaching as high as 200,000 cu. ft. per day. This company had been blending benzol at 15 to 17 cents per gallon, with its straight-run and cracked gasoline to obtain the desired anti-knock rating which enabled the sales department to compete with other regular grade brands. By building and operating the polymerizer unit, the use of benzol has been eliminated, gasoline yield increased by about 3.5%, producing less gas loss and lowered operating expense.

This smaller unit cost about $9000, including labor. As will be seen in the description, no stabilizer tower or special treating unit was included in this plant, the raw unstabilized polymer being mixed with the pressure distillate and stabilized and treated along with the latter.

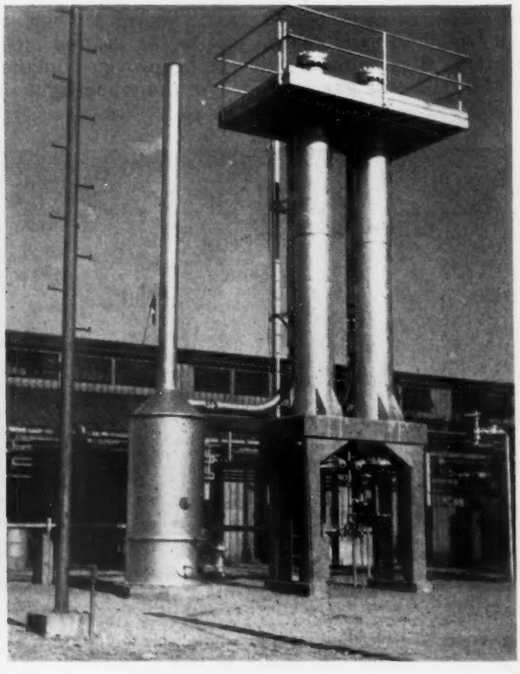
According to the calculations this unit will pay out and show a considerable profit on as little as 125,000 cu. ft. of gas per day, officials say. The refinery operates chiefly on crude from the Buckeye field in Michigan, topping it and removing gasoline, kerosine, gas and distillate fuel oils. The reduced crude is cracked in a selective two-coil Dubbs unit, in the second coil of which a distillate cut may be cracked when conditions make that more desirable than selling the distillate as such.

When the cracking unit is operated to produce cracked gasoline of octane number higher than about 66.5, the gas loss becomes excessive, reducing the overall yield of salable products from the plant. The polymerization operation has permitted the cracking unit to operate under less severe conditions, thus increasing the total gasoline yield in two ways, the polymer actually made, and the greater yield of cracked gasoline as such. The polymerized gasoline amounts to approximately 1500 gallons per day, or one gallon for each 116 cu. ft. of gas charge, approximately. The average composition of this gas is shown in Table 1, which shows that it contains a total of 35-37% of C_3 and C_4 olefins suitable for polymerization.

The furnace of this unit is a cylindrical steel shell lined with firebrick. The coil is a spiral of 1½" pipe, set inside the furnace at about 4 inches from the brick lining. The burner is controlled by a Taylor Fulscope regulator and a



Right
Fig. 1. Vertical cylindrical heater and parallel catalyst towers in the Leonard Refineries, Inc., polymerization unit at Alma, Mich. The design and construction is extremely simple



Left
Fig. 2. Heater of the Leonard polymerization unit. This is a cylindrical shell lined with firebrick, and fitted with a spiral coil through which the polymerizer charge passes

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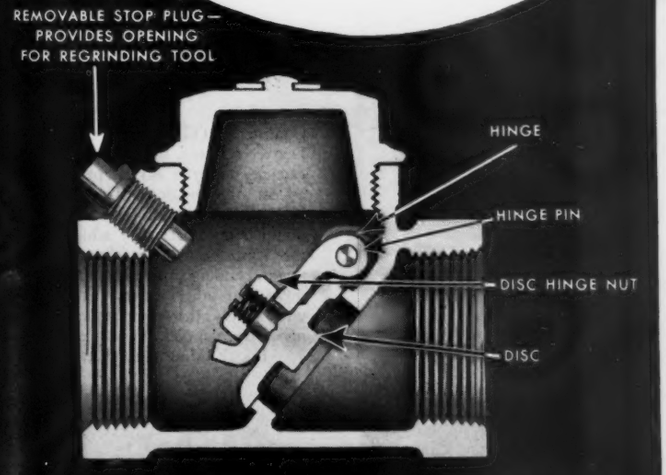

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Crane makes Swing Checks for every type of service. Some have metal discs, others discs of leather. Some have outside levers and weights; and still others, the foot valves, are specifically for use on the suction line of pumps to do away with hand priming.

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Every specific application requires a specific check valve—one that is readily available in the Crane line. The new Crane booklet "Checking Up on Check Valves" contains valuable information on the selection and application of checks for any service. A copy will be sent upon request. Be sure to consult the Crane salesman on your check valve requirements.

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TABLE 1—Analysis of Fresh Feed at Leonard Refineries' Polymerization Unit

Component	Per Cent
CH_4	1.0
C_2H_4	2.0
C_2H_6	20.0
C_3H_6	20.0
C_3H_8	27.0
$i-C_4H_8$	4.5
$n-C_4H_8$	10.5
C_4H_{10}	13.0
C_5H_{12}	2.0
	100.0

McAlear regulator is fitted to the burner gas line. The outside of the furnace is shown at left, Fig. 2.

The catalyst towers are made of seamless line pipe, 20′ long, 18″ diameter with ½″ wall, set on a frame as shown in Fig. 1. They are connected in series, and the outlet from the second tower connects to the cooler, a Griscom-Russell G-fin; then to the pressure distillate receiver tank. Each tower will contain 1400 lbs. of catalyst, which is supported on a perforated plate in the bottom, the plate covered with 10″ of broken firebrick to retain the catalyst.

A 2-cycle Reid diesel engine of 25 H.P., operating on diesel fuel made in the plant, drives the 3¾″ x 7″ Worthington compressor. Since it is necessary to add a small amount of water to the charge in order to promote the polymerization reaction, a small Hills-McCanna lubricator pump, injecting up to about 100-150 cc. of water per hour is fitted into the system for this purpose and maintains the correct amount of water vapor in the ingoing gases.

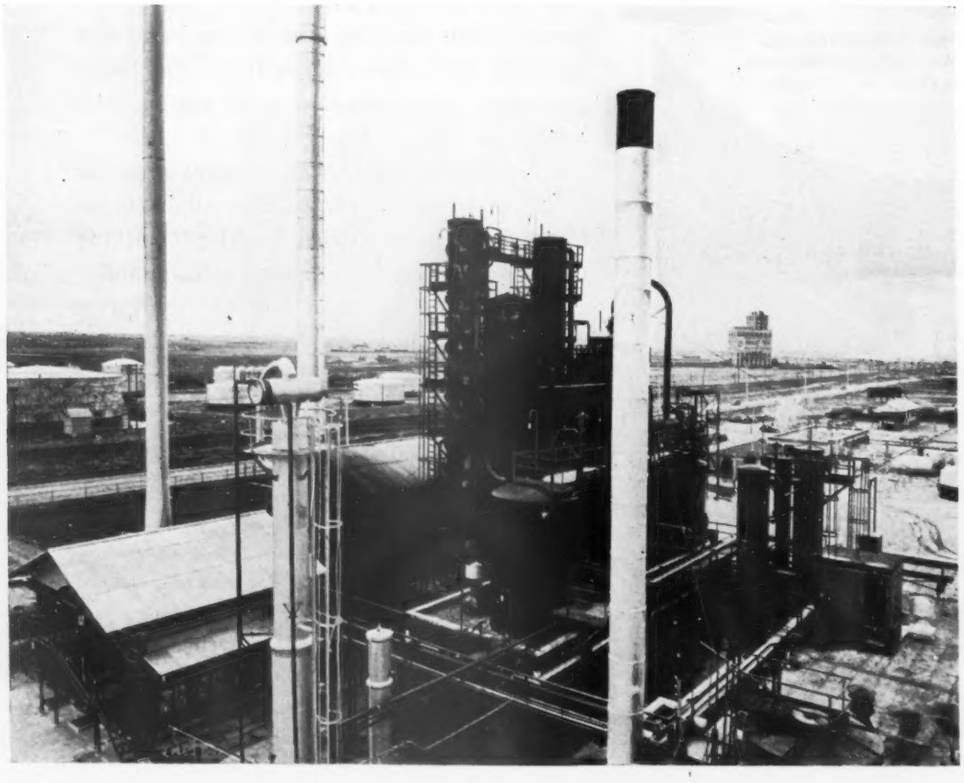
Gas from the pressure distillate stabilizer overhead is picked up by the compressor and discharged to the heater at approximately twice the stabilizer pressure. Furnace outlet temperature may be 300-400° F. The temperature rise on the outlet to the catalyst towers is that resulting from the exothermic polymerization reaction, of the order of 75° F.

From the second tower the polymerized product goes to the pressure distillate receiver, thence to stabilizer where it is reduced to vapor pressure as a part of the cracked products. Present plans are to build a separate stabilizer for the polymer. If the pressure distillate, which now is being stabilized to about 9-9½ pounds Reid, were stabilized deeper, say to six pounds, a correspondingly increased volume of overhead gas would then be available for processing to produce a correspondingly greater yield of polymer. This increased polymer yield would further increase the octane number of the finished gasoline, and the total gasoline recovery from the crude. UOP copper treating is used at present and when the unit is finally developed the polymer product will be treated separately as it is relatively high in mercaptans, and similar to the McClanahan product in that respect. The treating problem, while a special one, differing somewhat from that of the cracked distillate, offers no serious handicap, it is stated

As stated before, the increase in gasoline yield obtained from the polymerizer is about 3.5%. The octane number of the polymer is 82-85, and its blending octane number is 90-100. This additional product increased the octane number of the plant by about 1.5 numbers, and has eliminated the need for using benzol as a blending agent, further reducing the cost of producing a finished competitive regular grade of gasoline from the plant.

The results of operating this unit on gases from a heavy oil cracking still illustrate well what can be done to increase yields and octane ratings as well under these conditions. One of the primary purposes in building this unit was to increase the total gasoline yield from the crude which can be processed in the plant at its present capacity, and company officials are satisfied that their purpose has been achieved economically and that other advantages have been obtained which further simplifies the company's problems.

At the time of writing this (July 27) this unit has been operating continuously since June 22, without any change of catalyst or any shutdown of any kind except for a few minutes to make very minor adjustments in the compressor. Conversion of the olefins present in the gas is still 100%, at worst only traces of olefins appearing in the tail gases now and then.



Continental Oil Co. is revamping its Denver refinery, increasing its crude capacity to 2700 barrels per day, at a cost of $500,000. The Kellogg-built cracking unit was nearly doubled in capacity by additions to the waste-heat boiler, fractionating tower, tankage, sweetening equipment and other items. This plant will supply the company's market needs for a much larger area in the Rocky Mountain districts

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LICENSING REPRESENTATIVE

Activities OF EQUIPMENT MANUFACTURERS

MOLYBDENUM—"Molybdenum in Steel" is the title of a new loose-leaf book published by Climax Molybdenum Co., 500 Fifth Ave., New York. Printed on letter-size pages, the book is divided into 13 sections dealing with the various types of alloys in which molybdenum is incorporated, high temperature service, corrosion resistance, and steels for special purposes. A 14-page index is included.

* * *

REFRIGERATION LUBRICANTS—A concise discussion of the lubrication of air conditioning and refrigeration machinery is given in the July, 1938, issue of "Lubrication," published by The Texas Co. The article takes up the design and requirements of the different makes and types of compressors and pumps, and equipment used in this field. Many photos and cross-sectional elevation line drawings are included showing the different units and details of lubrication systems.

* * *

TANK EQUIPMENT—An expansion program that includes the addition of 15,000 square feet of shop floor space and the tripling of present office space and facilities has been started by the Vapor Recovery Systems Co., Compton, Cal. The capital outlay will be $25,000 to $35,000.

Frank V. Long, president, states 168 complete systems have been installed in the Long Beach area in recent months and orders are being booked from many foreign countries.

HARD STEELS—Alloy steels and alloy cast irons are now being produced with hardness values approaching so closely that of diamond that standard methods of measuring hardness of metals are no longer sufficiently exact to meet modern industrial requirements, J. S. Vanick, The International Nickel Co., told the American Society for Testing Materials at its recent annual meeting. Until one or another of the standard testing devices is improved or some new method of measuring hardness is developed, he said, the least uncertain basis for specifying the hardness wanted is the Brinell test.

* * *

DIESEL ENGINE—A new diesel engine in sizes of 300 to 800 horsepower for heavy duty continuous service is announced by Chicago Pneumatic Tool Co., 6 East 44 St., New York. The new engine features low fuel consumption with direct solid injection, improved performance with proper cylinder head design and a number of other attractive details which are described fully in the second edition of Bulletin 769.

* * *

Herbert M. Cooley, Tulsa, has joined Bethlehem Steel Co., as manager of field engineering in tubular products. His work will be principally the development of oil country tubular products. He was formerly with National Tube Co. as field manager.

Since World War Days . . .

The Sharples Petroleum Research Plant will soon be "of age"—21 years. When it was built, "low cold test bright stock" meant a pour point of 45°F. Do you remember? First 25°F., later 0°F., cold test bright stocks were born in this Research Plant—and later, Sharples centrifugal acid treating of lubricating stocks and the treating of white oils with fuming acid—and Barisol dewaxing for crystalline stocks—and a dozen other applications. And this is important—the keen magician who started this Research Plant still directs its destinies. That means something to one tired of working with amateurs.

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Merco Nordstrom Valve Co., Pittsburgh, and the Audley Engineering Co., Ltd., London, manufacturers of lubricated plug valves report shipments to 61 countries exclusive of England and the United States last year.

* * *

Goetz Gasket & Packing Co., Inc., New Brunswick, N. J., has developed a new line of valve discs for globe valves. The new discs are of laminated construction with alternating layers of asbestos and metal encased in 2-piece shells of copper, monel or other metals. Shells protect laminated parts and give a flat seating surface while allowing the upper ring freedom of movement under compression.

* * *

J. B. O'Connor of Clark Brothers Co. is joining his family at Banff, Lake Louise, to drive with them to Vancouver Island, B. C., where the family will spend the summer.

* * *

L. B. Hampton has been made manager of the Pacific Northwest district of Crane Co., Chicago, succeeding F. A. Nitchy who is retiring after 46 years with the company. A native of Salt Lake City, Mr. Hampton is a past president of the Chamber of Commerce and Rotary Club of that city. He has been located in Portland for the past year.

* * *

BOOKS—Books published by the Chemical Publishing Co. are now listed in Catalog No. 6 which is now available for 10 cents by addressing the company at 148 Lafayette St., New York.

The second installment of the article, "Heaters for Petroleum Refining," by L. A. Mekler, which was introduced in the July 27th issue of Refining Technology, will be published in its August 24th issue.

Raymond Szymanowitz, until recently technical director for Acheson Colloids Corp., has been promoted to vice president and technical director of Acheson Industries, Inc., technical development branch of the Acheson interests. He will continue to supervise all research activities for the company at Port Huron, Mich.

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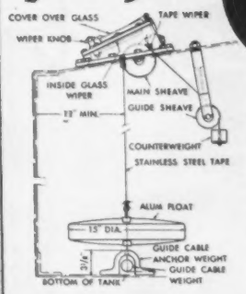

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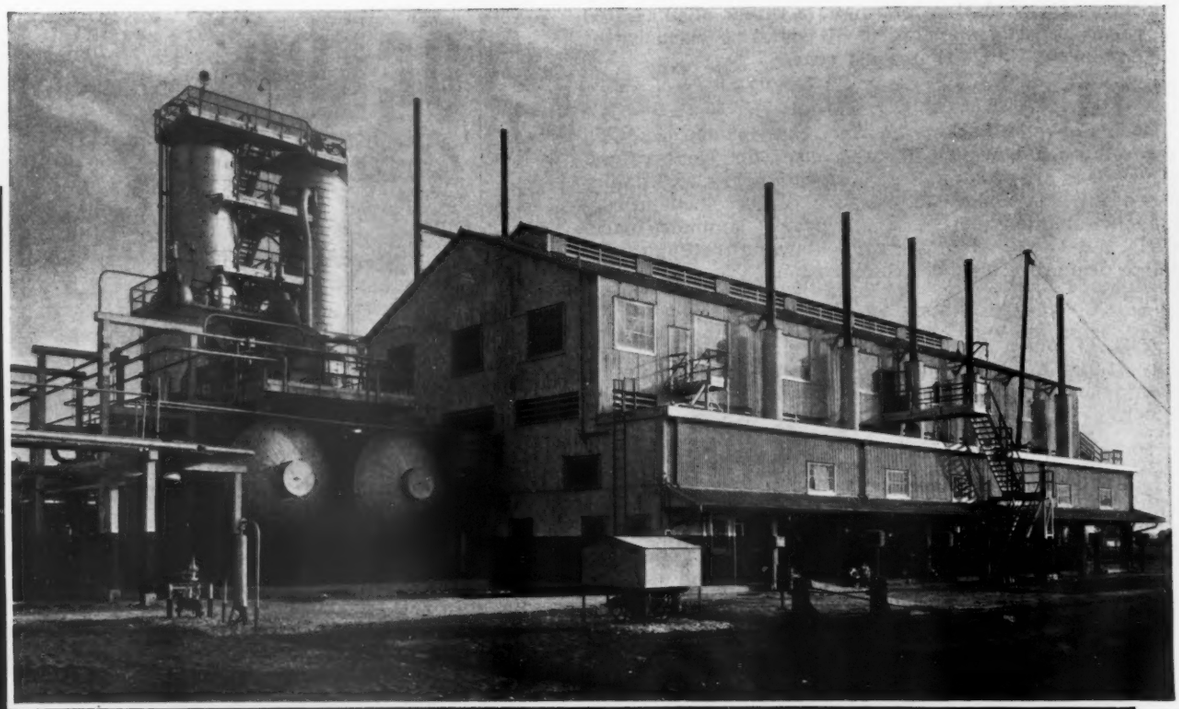

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The M. W. Kellogg Company, as licensing agent for the JUIK processes, has the benefit of long experience, combined with the cumulative research work of several of the leading refiners to supplement the work of its own research department.

Lubricating oil units built by Kellogg have an enviable record of producing high grade oils by methods which are simple, continuous, efficient and economical.

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THE M. W. KELLOGG COMPANY

JERSEY CITY, NEW JERSEY • 225 BROADWAY, NEW YORK

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These 12, three-inch, 300-gallons-per-minute meters at the new bulk plant at Los Angeles of the Wilshire Oil Co. are among 19 installed at this modern plant to measure accurately a plant throughput of 8,000,000 gallons of gasoline a month. In actual operation, the vertical dials face the window for ease in reading by truck drivers. The horizontal dials in the body of the meters are used by an operator in the meter house. Quick acting valves on the discharge side of the meters can be closed by this operator in the event of an accident at the loading point

How Meters Save In Oil Marketing

By John W. Thompson

N. P. N. Staff Writer

The importance of meters in locating and isolating losses in the volume of gasoline and other oil products handled at bulk plants is brought out, thereby making it simple for the oil company to know what methods to use to actually eliminate such losses.

Distinct advantages in the use of meters are shown in lowering truck operating costs through simplifying the loading of the truck at the plant and the delivery of its contents; through making possible more efficient routing schedules; through eliminating errors due to incorrect calibration of truck compartments.

Proper methods of use of meters at loading racks are described and examples given of the savings one oil company discovered by the use of meters.

GAUGING and calibration does not measure the volume of oil products; instead, it measures the vessel holding the liquid. A truck tank compartment may have been calibrated at one time to hold 200 gallons, for example, but now it may actually hold 203 gallons. Without a meter, this compartment continues to dump 203 gallons, thus losing three gallons on every dump. The fault, of course, lies in the fact that the volume of the compartment is measured as representing the quantity of liquid, instead of the liquid itself being measured as it enters or leaves the compartment.

That is the true reason for the existence of meters in the oil industry —accurate measurement of the product handled, instead of measurement of the container in which the product is carried.

Oil marketers are often guilty of attributing a large part of their losses to expansion or contraction factors and to evaporation, when in reality a large percentage of these are often handling losses, which the meter could readily discover.

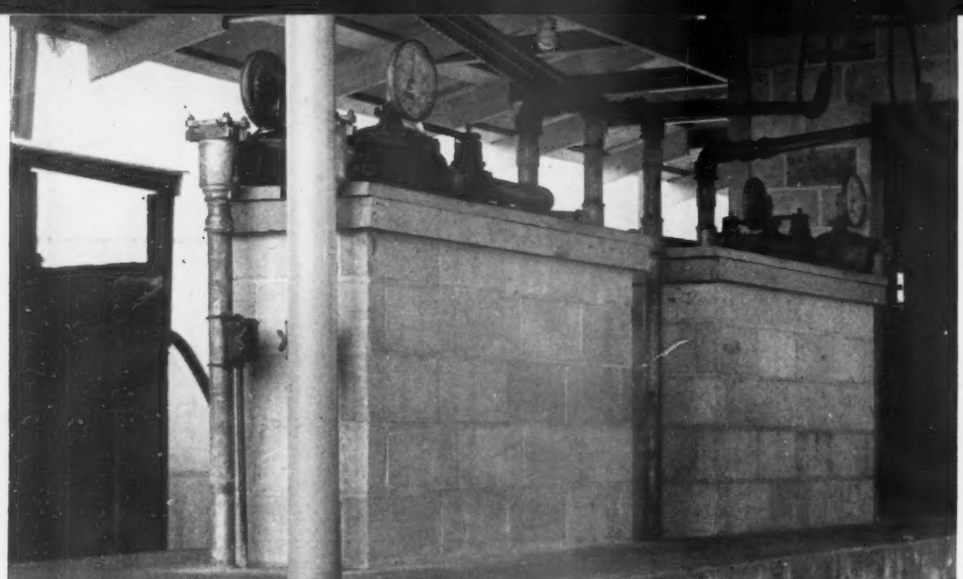
The association of meters with the prevention of losses has given some marketers the idea that a meter, of its own accord, will prevent losses. Some have even installed meters at their bulk plants, and then, with an attitude of "now go ahead and stop my losses", sat back and waited for results. To these few marketers there has come only disappointment.

For a meter will not stop losses any more than an eraser will prevent errors in writing. The meter will not correct a loss, but it will identify it and help to prevent its recurrence. When there is a loss occurring consistently at a plant, meters will wave a danger flag until the loss is corrected. A daily stock record system based on measurement by meters, is the only practicable solution to the loss problem.

NOT only do meters measure and record accurately, but in many instances actually speed up stock handling and permit the use of methods not possible without them. Everyone handling a metered line soon learns that meters overlook nothing, even down to the fraction of a gallon, with the result that careful handling of stocks becomes a habit by the plant personnel.

The meter has its effect also on lowering truck operating costs, for the truck equipped with a meter can make less-than-compartment deliveries without resorting to the time-consuming chore of bucketing. This often results in reducing back-hauls and thus permits a saving in truck-man-hours. Also the meter, because it permits the speedy delivery of any desired amount, makes possible the scheduling of trucks on a more practical basis than is possible on units not meter-equipped.

The saving in time possible from ef-



A modern, efficient, meter-equipped truck loading rack at the bulk plant of the Pate Oil Co., Milwaukee. There are two driveways, each with two gasoline loading spots and two spots for fuel oil. Four grades of gasoline and three of fuel oil are metered at 100 gallons per minute. Loading time has been reduced, trucks are loaded accurately, and there is a perpetual inventory on the rack of all products removed

ficient routing is often large, one meter manufacturer estimating that three metered trucks will generally cover the same territory requiring five trucks without meters.

It has been pointed out that a meter on each loading rack fill pipe recalibrates every truck tank compartment each time it is filled, thus eliminating cumulative errors that mount up due to overfilling, incorrect gauging or bulging compartments.

One of the biggest jobs with which the meter representative has to contend is in getting the marketer, or his bulk plant operator, to load trucks properly through meters. In many meter-equipped plants, operators still insist upon filling the trucks by watching the level of the liquid as it rises in the compartment, and then when filled, they read the meter.

FOR some time now meter manufacturers have been urging oil marketers to fill their trucks by the meter, that is, by watching the meter during the filling and topping-off operation. In that way, regardless of an inaccuracy of the tank compartment calibration, the meter will always fill the compartment to a definitely determined amount of the product.

Proper metering at the bulk plant truck loading rack also reduces the hazard which normally is present when drivers or operators climb over the tops of trucks to watch the level of the liquid in the truck compartment. The operator should stay on the loading rack platform where, by merely watching the dial, he knows when to shut off his flow.

The rapid adoption of the meter on domestic fuel oil trucks was brought about to a great degree by the wide variety of sizes of consumers' tanks into which fuel oil had to be dumped. Many customers' tank gauges were not accurate and some tanks were equipped with no gauges at all. In addition, these tanks were of varying shapes and sizes, some in basements, some underground, others were batteries of 50-gallon containers, so that it was impossible for the truck driver to carry enough gauge sticks to measure the tank contents.

Before meters were installed on the trucks, if a customer wished to check the amount of fuel oil he was to receive, he would have to climb on the truck and check the compartment before and after delivery. Before the installation of meters, the driver would pull up in front of the home, drag the hose to the fill pipe, check the storage tank and then climb up on his truck and check the compartment with a gauge stick. He would then start his pump and go back to the fill pipe and start his delivery. When he thought he had the required number of gallons in the storage tank he would shut off the nozzle, go back to the truck, stick his compartment, and maybe find he was still 15 or 20 gallons short on his delivery and have to repeat the performance.

Now with a meter-equipped truck, he sets his meter at the required number of gallons to be delivered, checks the customer's storage tank, starts his pump, opens the nozzle, and the meter automatically shuts off the flow, when the proper number of gallons is in the tank.

One truck operator said that fuel oil meters have enabled him to speed up deliveries 25 per cent, making possible a sizable cut in delivery cost on his vehicle.

To make a comparison between the meter method of tank truck loading and loading with either a marker or a gauge stick, tests were run at an oil company bulk plant for a period of 39 days, using the regular truck equipment and a standard meter system, including strainers, air releases and flow valves.

After the meter system was installed and tested for accuracy, the locked shutters were opened on the meter recording mechanism and the meter readings recorded. The recorders were then locked and blinds placed over the counter numbers so that no one could read the figures. A new set of loading sheets were then started and truck loadings were continued exactly as before, with no thought given to the meters which were now in the line and recording.

The plant operated in this manner for 39 days. Then the meters were again unlocked, readings taken, and the results showed that a total of 1,096,890 gallons had been withdrawn through the meters.

The plant personnel then tabulated the number of gallons that had been withdrawn as recorded by the eye and stick method. Their total was 1,095,261 gallons, or 1719 gallons less than the gallonage recorded by the meters, which clearly shows that for this period of 39 days, 16/100 of 1 per cent of gasoline was actually taken from the plant but not recorded.

As the yearly gallonage of this plant is approximately 14,000,000 gallons, this percentage of overloading represented a loss of 26,666 gallons per year. Figured at a retail price of 15 cents per gallon (including 5 cents state tax) there is a loss of $4000 worth of gasoline.

THE above figures, correct thus far, were based on the assumption the capacities of the truck tanks used were correct. In order to determine this, check was made of the individual truck capacities.

The results of this check-up once more showed the value of meters in filling truck tank compartments. One truck with a rated capacity of 808 gallons, had an actual capacity of 809. It made 152 trips during the test period, with the result that 152 gallons were withdrawn but not shown by the eye method.

Another truck was found to have an actual capacity of 2½ gallons over its rated capacity. It made 126 trips during the test period, with the result that 265 gallons were withdrawn unnoticed by the eye method, but which were caught by the meter.

In a third truck, 351 gallons were carried out unrecorded during the 39-day period, because the truck had a rated capacity of 804 gallons, but required 807 gallons to fill it. Another truck took out of the plant an underload of 470 gallons during the period because the truck's actual capacity was 5 gallons under its rated capacity. Still another truck was only loading 2402½ gallons when the operator, by the eye method, believed it was taking out its

How big a highball?

IF whiskey was as potent as U.O.P. inhibitor No. 4, you'd have to split a drop to make a highball—or make it in a bucket

Five drops of No. 4 keeps gumbugs all out of a gallon of gasoline (or more) and the anti-knock value all in

No wonder they call it the Chemical Sergeant

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

This picture illustrates the correct use of the meter in loading a truck tank compartment. Notice that the operator, instead of climbing over the top of the truck to watch the liquid level in the compartment, is relying entirely on the meter

rated capacity of 2420 gallons each trip. In this truck's 52 trips during the test period, customers were shorted a total of 900 gallons because there was no meter recording the truck filling operation at the plant loading rack.

While the above tests were being carried on an attempt was made to determine the amount of gasoline left in the tank trucks when they returned to the plant. With the exception of one truck, which returned with from 8 to 10 gallons, it was found the average truck was returning each time with from 1 to 1½ gallons.

AS THE amount of gasoline varied, it was not possible to get a positive figure as to the number of gallons returned to the plant by the trucks. However, an estimate placed this gasoline at about 30 gallons per day, or 900 gallons per month, which meant that the trucks did not deliver the amount for which they were calibrated because they always had a certain amount of gasoline left in them when they returned.

Using a meter system, the amount of gasoline left in the trucks would be completely ignored and they would be loaded each time with the exact amount called for by the sales ticket. The amount coming back into the yard each time would thus balance itself and the customer would obtain the correct gallonage.

Normally, properly designed trucks will completely drain themselves, even under severe road conditions, but as the trucks used in this test were not delivering that efficiently and had returned with this amount of gasoline per load, this was taken into consideration in the final test results. The 900 gallons on the small trucks plus the 500 gallons on the large truck made a total of 1400 gallons of gasoline brought back into the plant each month on which a tax has been paid. It is gasoline the customer has paid for and never received, and it is not charged back into the plant.

Thus this test showed that, in addition to the 1719 gallons which could not be accounted for under the eye gauging method but which were caught by the meter, the summation of truck overloadings and underloadings showed a total of 602 gallons underloaded. This figure, added to 1719 gallons, equals 2321 gallons, which represents the difference between eye loading and meter loading in this company's operation over a 39-day period.

During the same test, a check of the loading time of numerous compartments showed that the meter system required only 62 per cent of the time required to load by the eye method. The average time consumed in topping off compartments under the eye method was 53 seconds per compartment. With the meter system there was no loss of time due to topping off.

THE elimination of losses in both time and material is an ever-present problem in the distribution of petroleum products. Operators each year are becoming more keenly aware of the monetary losses involved when inaccurate measuring methods are used. No oil company is immune to these losses, and all refined stocks are affected.

The meter is the watchdog of the plant inventory; but the marketer who is considering the installation of meters should bear in mind that a meter cannot, of its own accord, eliminate losses. It will, however, identify and isolate a loss so that the marketer can eliminate it.

Practical Method of Meter Inspection

Meters, at bulk plants, on trucks, wherever used by the oil company, should be inspected regularly to make sure they are operating at their top efficiency, just as all marketing equipment and the plants themselves should be checked to make sure operating costs all told are being kept at the low level demanded by today's competition.

A handy, convenient tool for the inspection of meters is to be found in the N.P.N. Inspection Form for Meters which is a part of the general N.P.N. Inspection Forms for Bulk Plants and Trucks.

The nature of the questions is such that points at which operating efficiency is not achieved may be quickly determined, and the method of presentation of the questions allows a rating for the equipment to be given which provides a method of comparison with other like equipment.

These inspection forms for meters are contained in the N.P.N. Bulk Plant and Truck Inspection Form booklet, which contains in all 189 questions on bulk plants and their equipment and 108 on trucks. These booklets can be secured through N.P.N. Editorial Department at 10 cents a copy and less in quantities. Following are the questions on meters:

METERS

	Yes	No
Is glass on dial or recorder in good condition?	☐	☐
Are inlet and outlet pipe connections free from leaks?	☐	☐
Has accuracy of meter been checked recently? (This can be done with bucket or tank truck compartment of known capacity)	☐	☐
Is counter mechanism clean?	☐	☐
Are counter mechanism gears free from excessive wear?	☐	☐
Are strainer connections free from leaks?	☐	☐
Is strainer clean?	☐	☐
Is head of air eliminator free from cracks?	☐	☐
Is air release valve clean?	☐	☐
Is meter supported in such a way that inlet and outlet pipes do not carry its weight?	☐	☐
Is meter supported on a solid foundation?	☐	☐
Are meters provided for gasoline, kerosine, naphtha, fuel oil, and lube oil outlets?	☐	☐

Your Meter Score

Total questions asked 12
Total "Yes" .....

$$\text{Score} = \frac{\text{Total "Yes"} \times 100}{12} = \text{.....}\%$$

ADVERTISING PARTS REMOVED

Pointers on Installing Meters in Bulk Plants

For successful operation of meters in the marketing of oil products, certain auxiliary equipment is necessary and is recommended and supplied by the manufacturers with complete installations. This equipment includes air eliminators, strainers, back pressure and pressure reducing valves and surge chambers.

Suggestions are given as to selection of the proper size meter and the metering of both incoming and outgoing shipments is recommended. Methods are given for the care of the meter after its installation.

A METER, like a fine watch, is a precision instrument, accurately machined to close tolerances. Just as the owner of a good watch would protect it by fastening a watch chain or some other guard to it, so should the owner of a meter protect its mechanism against wear and unnecessary abuse.

In order that meters may give accurate results, it is necessary in all cases that they be equipped with one or more items of auxiliary equipment, which are supplied by the meter manufacturers. These various units consist of such items as strainers, air eliminators, back pressure valves, pressure reducing valves and surge chambers. This equipment is necessary to protect the meter from foreign matter, air, and excessive pressure, all of which may either damage the sensitive meter mechanism or cause errors in registration.

Strainers are perhaps the most important item of auxiliary equipment and should be used on every meter installation, regardless of whether the set-up is a pump or gravity flow system. Strainers protect the meter from foreign matter such as pipe rust, scale and grit. They should be installed in the pipeline ahead of and as close to the meter as possible, that is, on the inlet side. Practically all meters are plainly marked on their castings to indicate which are the inlet and outlet ports. The strainer screen should be of proper mesh as recommended by the meter manufacturer and of heavy construction to withstand the pressure of foreign matter when the screen becomes clogged.

Air separators protect the meter from inaccuracies in recording caused by air entrained in the liquid being measured. In meter systems where pumps are used, or where other layouts tend to churn the liquid and entrain air, an air eliminator should always be used in connection with the meter.

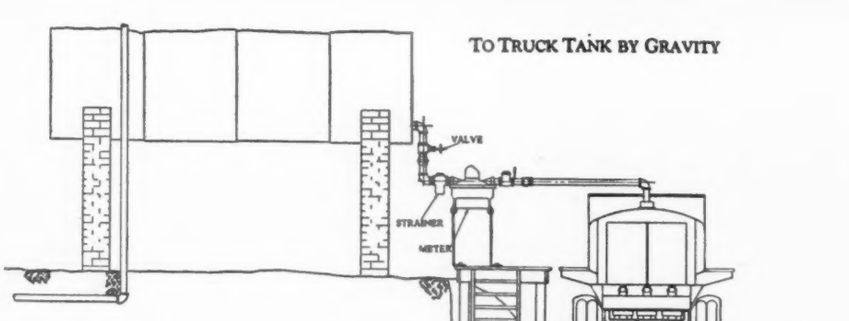
Being an instrument which measures by volume, meters will record the passage of air as well as the liquid being measured. On straight gravity installations air can only be drawn into the meter through syphon action when the tank empties. The possibility of measuring air in such cases can be eliminated by proper piping to break the syphon when the tank empties.

In pumping petroleum products to a loading rack, air can enter from several sources and must be eliminated by an air eliminator. Where storage tanks are below the level of the pumps, or underground, air may be drawn in through the pump packing glands. On shutting down, there will be a drain-back to the storage tanks, emptying the suction lines. An air release on such installations should be placed at such a level that the liquid between the air release tank and the loading valve will be trapped, preventing any drain-back between these two points. One meter manufacturer recommends that only one air release be used for each pump delivering products to the loading rack, regardless of the number of meters or loading outlets served by the pump. The air release must be of sufficient size to remove the maximum amount of air delivered by the pump at capacity.

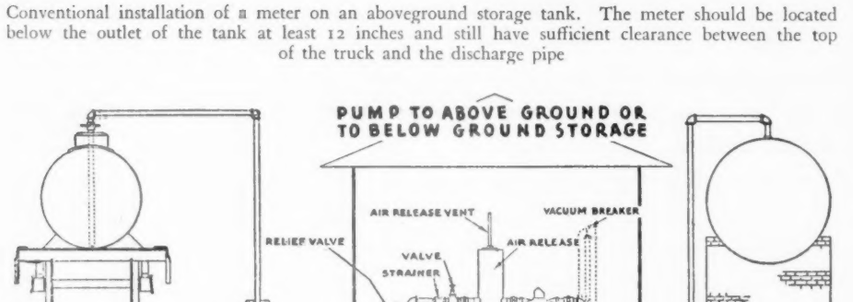
A WORD about the operation of the air release or air eliminator may be of interest. A description of the operation of one company's unit is as follows:

"As the liquid enters the air chamber and air release it passes into an inner cylinder where the velocity of flow is greatly reduced allowing the required interval of time for the air to separate from the liquid. The air, being lighter than the liquid, rises to the top of the air release, into the air chamber where a quantity of it is constantly maintained to absorb impact pressures or shocks which may occur in the lines. As the air continues to accumulate and periodically exceeds the capacity of the air chamber, the pressure of the excess air lowers the liquid level to a given point causing a float to drop, which in turn

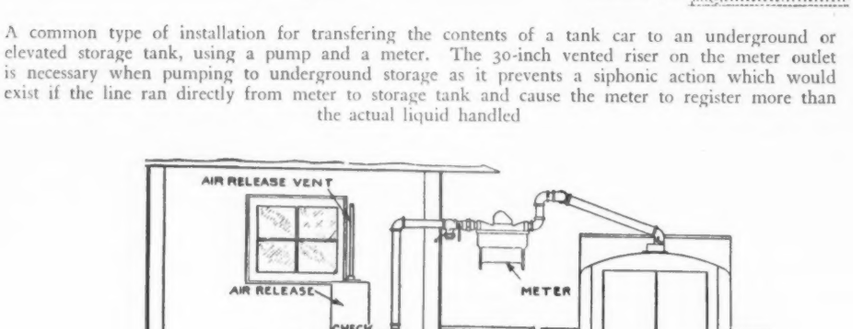
Illustrating good practice on installing meters for a gravity system. Note that the storage tanks are above the level of the meters and the meters are above the truck level



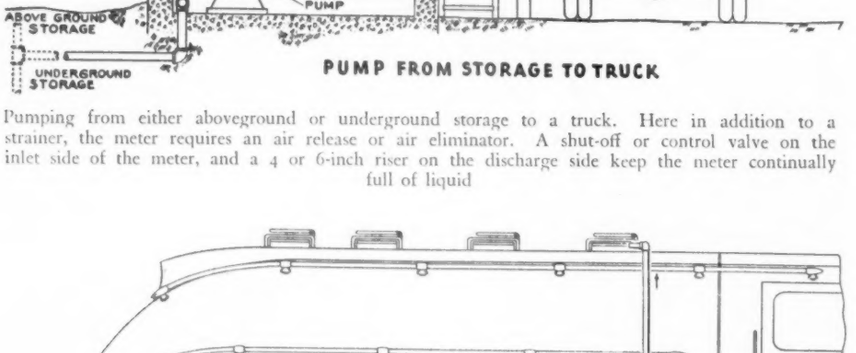
Conventional installation of a meter on an aboveground storage tank. The meter should be located below the outlet of the tank at least 12 inches and still have sufficient clearance between the top of the truck and the discharge pipe



A common type of installation for transfering the contents of a tank car to an underground or elevated storage tank, using a pump and a meter. The 30-inch vented riser on the meter outlet is necessary when pumping to underground storage as it prevents a siphonic action which would exist if the line ran directly from meter to storage tank and cause the meter to register more than the actual liquid handled



Pumping from either aboveground or underground storage to a truck. Here in addition to a strainer, the meter requires an air release or air eliminator. A shut-off or control valve on the inlet side of the meter, and a 4 or 6-inch riser on the discharge side keep the meter continually full of liquid



A typical meter installation for a fuel oil truck equipped with a pumping unit. Note the compactness of the meter and pump, and the combined air release and strainer in one case

opens a vent valve and allows the accumulated excess air to escape."

Back pressure valves are frequently required on the discharge side of air eliminator tanks to insure efficient operation. As one meter manufacturer points out, immediately upon opening the air release vent valve, due to air accumulation, the pressure in the discharge line from the air eliminator is reduced, so that the back pressure valve closes, stopping oil flow until all air is removed.

Pressure reducing valves and surge tanks are often used to protect meters from the excessive pressures to which they are sometimes subjected. Valves and fittings ordinarily used in bulk plant construction are designed for a maximum pressure of 125 pounds per square inch, and meters and accessories should be capable of withstanding this pressure. Surge tanks and pressure reducing valves are only necessary where the pressure might exceed this figure.

HYDRAULIC shock on meters can be generally controlled by the installation of modern loading valves. One manufacturer states that a quick closing valve at the end of a long line is a frequent source of trouble. He emphasizes his point in this way:

"If you want to work with some big figures, calculate the driving power of a six-inch line of gasoline a half-mile long moving at a speed of 400 gallons per minute and suddenly stopped."

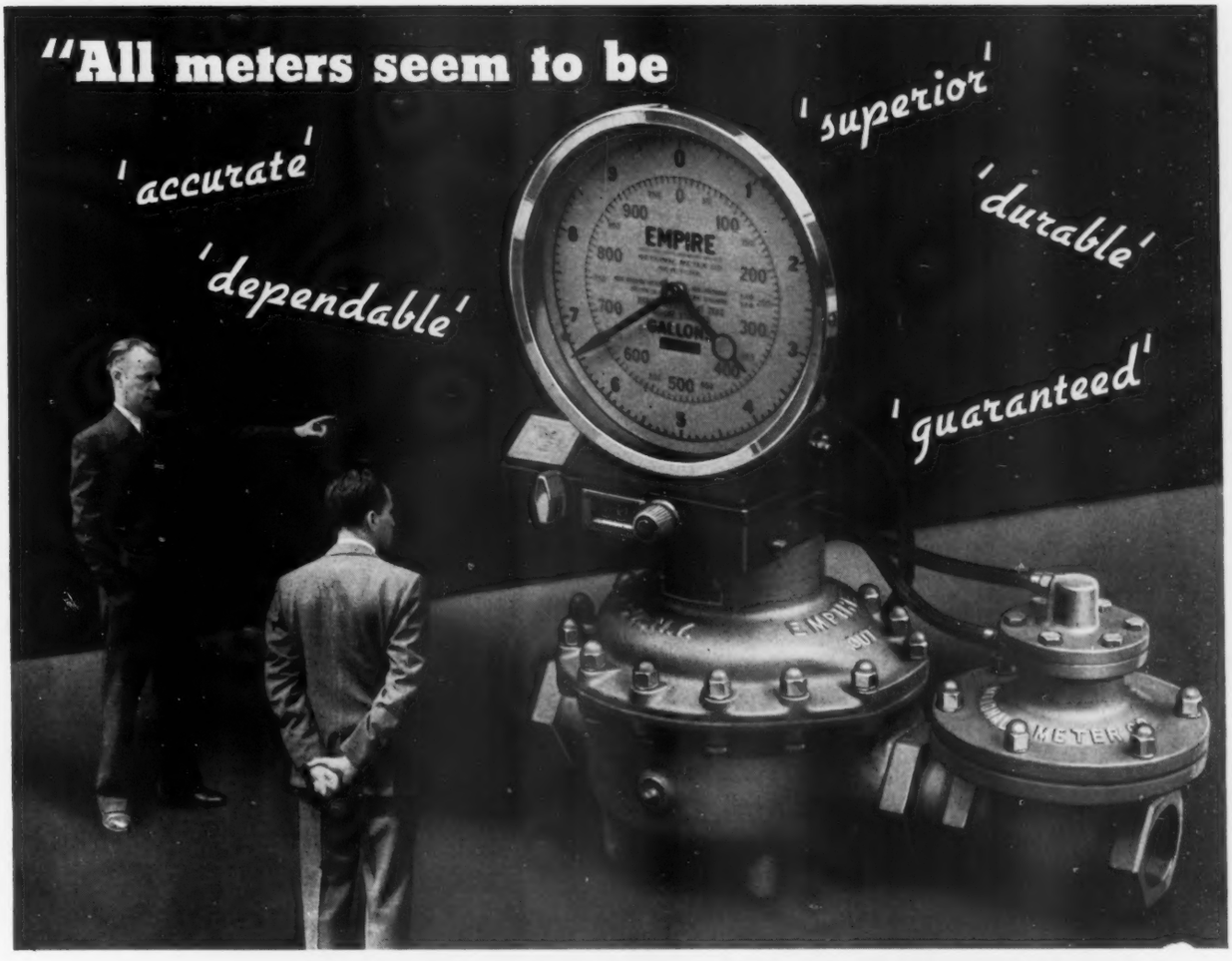
He urges that if you are not able to install double poppet valves, you can at least use a slow closing valve or educate your operators to reduce the flow in steps before completely shutting down.

In selecting the size of meter to use, manufacturers urge that a large enough unit be chosen so that it will not have to run at its maximum capacity at all times. In other words, they point out that a meter is a mechanical piece of equipment the same as an automobile, but that it is not good economy to operate either the meter or the car at their maximum rates of speed for extended periods.

Meter manufacturers recommend, as do an increasing number of oil companies, the use of meters on both incoming and outgoing shipments at the bulk plant. This plan provides a constant check on plant inventory, greatly simplifies the job of bookkeeping, and enables the operator to quickly determine if there is any wide discrepancy between the gallons he receives and those he delivers from his plant.

One meter manufacturer points out that in most cases, if only one meter is used to measure incoming and outgoing shipments, the cost of piping and fittings and labor in a properly manifolded job would no doubt be 50 or 60 per cent as much as the cost of another meter.

Quite often meter manufacturers receive inquiries from prospective customers asking if the same meter may



. . . so why should I buy an EMPIRE?"

a fair question . . . and here's a fair answer:

1. Because the Empire Balanced Piston and the positive displacement principle provide the most accurate method of measurement; minimize friction and wear (those common causes of increasing inaccuracy and repeated repair), and insure the lowest maintenance costs throughout years and years of service.

There are no complicated crankshafts, connecting rods or valves in the Empire Meter. The simple piston glides between the two flat finished faces of a measuring chamber . . . as constant in volume as a tester's measure . . . balanced by equal pressure on each side of the web.

2. Because the Microset provides positive micrometric calibration of the Empire Meter without the conventional change of gears, use of needle valves, variation in piston stroke, multi-gear trains, or other cumbersome methods of correction.

A simple adjustment of the setting hand corrects the meter, instantly and accurately, over a full range of 3 per cent, advancing by increments of one-tenth of one per cent.

3. Because the Hydro-Measure-Matic Unit . . . another exclusive development of the National Meter Company . . . is acclaimed as the greatest single advance ever effected in pre-determined shut-off mechanisms for petroleum meters!

The Hydro-Measure-Matic Empire is flexible in installation and operation. There are no mechanical connections between meter and valve. Simple to set, simple to start; delivery stops slowly, surely, automatically (and without line hammer), to effectively prevent overfilling and spilling.

Get these facts for your file

Every distributor, jobber and marketer should send for a fully-illustrated catalog containing detailed information, illustrations and specifications of the complete line of Empire Meters for bulk station and tank truck service. Simply ask for Catalog 602 . . . there is no cost . . . no obligation.

National Meter Company, 4219 First Avenue, Brooklyn, N. Y.

BOSTON • CHICAGO • DALLAS • LOS ANGELES • SAN FRANCISCO

NATIONAL *Meters*

be used for measuring gasoline, kerosine and distillates. Oil men know the answer to this, but a word of caution will do no harm. Such practices are very hazardous and should be discouraged. Kerosine and distillates can be safely handled through the same meter, but an appreciable amount of gasoline in kerosine or distillate might easily cause a serious explosion.

All meters should be placed in a location where it will be possible to put a protective covering around the meter, particularly the register, to keep out rain, sleet and snow. The meter should be installed where the counter can be most conveniently read by the operator, and it should be mounted on sufficient support and securely fastened so there will be no strain on pipe connections or meter. Care should also be taken not to strain the meter when mounting it.

Care should be taken, particularly on gravity installations, to have the pipe leading to and from the meter as large in diameter and as short as possible to eliminate unnecessary pipe friction. On gravity installations where the head pressure is low at bulk plants or on trucks, some manufacturers recommend that the pipe be a size larger than that of the meter.

On bulk plant installations in which the liquid is discharged by gravity, the meter should be installed as far below the tank as practicable, and still above the top of the truck tank. This will provide maximum head pressure and a consequent increased rate of flow.

When installing the meter, the piping between it and the strainer should be thoroughly cleaned, and kept free from dirt and scale. For sealing the pipe joints, meter manufacturers recommend only shellac or litharge applied to the male threads only.

It is recommended that the meter not be calibrated with water. If pipes and tank lines of new construction are to be flushed with water, it is recommended that the meter and strainer not be installed until after flushing has been completed.

When installing a meter, the line should first be tested for shock pressure which might prove excessive and damage the meter. Also the piping should be arranged in such a way as to prevent a reversal of flow through the meter when the pressure is off.

A manufacturer of piston meters cautions against checking or calibrating such a meter of large size with only a five-gallon test can. To check a bulk meter when a 50 or 100-gallon test can is not available, this manufacturer suggests the following procedure:

Pull a truck up in front of the meter to be checked, and load a small amount of liquid in one compartment. Then drain this compartment and, without moving the truck, load 25 or 50 gallons through the meter. It will then be possible to drain this out of the compartment with a five-gallon test can and thereby get the variation on the quantity placed in the compartment.

Hints on Locating Meter Trouble

Register Not Working When Liquid Is Flowing.

By-pass around meter not shut off.
Register stuck or flow reversed through the meter.
Air release valve fails to close, allowing liquid to by-pass the meter through the air vent.
Meter installed backwards in the line.

Leakage At The Stuffing Box.

Excessive pressure in the line.
Loose or worn stuffing box nut.
Worn stuffing box spindle.

Leakage At Main Casing Gasket.

Broken gasket.
Excessive line or shock pressure.
Loose bolts.

Reduction In Rate Or Complete Stoppage Of Discharge.

On gravity systems or on pump systems (pump laboring):
- Blocked strainer due to sediment or frost.
- Piston in meter stuck, caused by dirt (check strainer).

On pump systems (pump not laboring):
- Pump by-pass stuck open.
- Air release valve fails to close, allowing liquid to escape out the air vent.
- An open valve in the piping allowing the liquid to circulate around the pump.
- Worn pump.

Over-registration—Erratic.

On pump systems:
- Leaking valve in empty compartment, causing an emulsion of air and oil.
- Air release valve jamming, allowing air to pass through the meter.
- Vent line from the air release valve plugged, causing air to pass through the meter.
- Leaks in the suction line, such as valve stems, pump packing, or flange gaskets.
- Air pockets in closed-end piping in the suction line.
- Manifold or compartment valves only partly open, causing excessive suction.
- Suction piping too small, causing excessive suction.

Under-registration—Erratic:

Air release valve fails to close, allowing liquid to by-pass the meter through the air vent.
Dirt in the measuring chamber.
Main casing distorted or damaged.
Leakage around meter due to partly open valve.

Modernistic Design in Ready-Built Steel Station

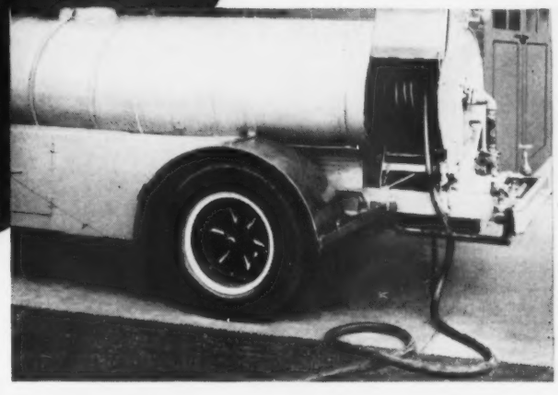
This ready-manufactured steel service station of modernistic design provides for an office and display room 18 feet across the front and 16 feet deep, with an 8.5-foot ceiling height and two lifts in a space 28 feet across the front and 28 feet deep, with a 13-foot ceiling. The overall width of the station is 48 feet. Rest rooms are built in at the rear of the office. The canopy around the office extends out 4 feet. The station is located in Wichita, Kans., and is operated by J. A. Plumley

Photo by Butler Manufacturing Co.

Stop worrying about DISCOLORATION

GASOLINE

KEROSENE



Now YOU CAN "COLOR GUARD" YOUR FUELS

Here's good news for every dealer who has lost a customer because his gasoline was the wrong color! Or because Mrs. Brown didn't like the color of her kerosene.

Recently completed tests show that oil-proof "Thiokol"* hose doesn't discolor—or change the color—of gasoline and kerosene. The tests showed also that "Thiokol" hose guards the color of every other motor and burner fuel sold today. Of all the synthetics, "Thiokol" hose, *alone*, gave this color protection.

Beside "color guarding" your fuels, you will find low cost "Thiokol" hose the lightest, longest wearing, easiest handling hose your men ever used. You can get this oil-proof hose in every size and for every type of service.

Thiokol Corporation, 780 No. Clinton Avenue, Trenton, N. J.

*Reg. U. S. Pat. Off.

ASK YOUR SUPPLIER FOR

"THIOKOL" HOSE

OR WRITE FOR LIST OF MANUFACTURERS

Public Accepts Meters In Oil Dispensing

Meters had been accepted by the general public long before the oil industry accepted them. For many years the water meter and the gas meter were unconsciously educating the public for the day when the oil industry adopted this means of measuring its products.

So when the meter first put in appearance on gasoline dispensing pumps, and then on fuel oil trucks, the public approved of it, and welcomed it as a logical step for the oil industry. The selling job to the public had been done.

Those who delve into historical documents tell us that the measurement of liquid had its start in Rome about 100 A.D., when water consumers were billed by the local public utilities department according to the cross-sectional area of the pipe discharging into their properties. The question of pressure or velocity apparently was not given consideration.

The history of the meter as a measuring device for petroleum products is a short one, for it is within the past ten years that the oil industry has become increasingly conscious of the meter and its possibilities.

However, up through the past 19 centuries the water meter had been building up a prestige and a mechanical perfection that proved to be the foundation stone on which the oil industry meter was finally built. The water meter, by way of record, made little progress until the 17th century, when a device using a calibrated container and a timing mechanism was installed for measuring water discharges at Leipzig, Germany. The principle is still used commercially today in checking the discharges of gasoline meter and pump combinations.

Following that came the tip-tank meter, which appeared first in England in 1824 and came to be the first mechanically-operated meter. So-called velocity type meters were developed in 1820.

Still another type of meter used for high flows, and known as the Venturi meter, was developed by Herschel in 1887. According to a study made by Lyman M. Van Der Pyl, of the Pittsburgh Equitable Meter Co., piston type meters were first made on a production basis in 1866, and were the forerunner of a similar type of meter now used in the petroleum industry.

The oscillating piston meter, the fundamental design of which is also now used in measuring petroleum products, appeared in 1884. The nutating disc meter which is now used in principle to measure gasoline and oil in some meters, was introduced in 1887, the invention of an Englishman, James Davies. Nutation describes the movement of the disc, which is similar to a spinning coin, except that the disc is not allowed to advance. The disc, in reality a form of piston, forms four wedge-shaped compartments in the chamber, two above and two below the disc.

It was only a decade ago that the visible type gasoline dispensing pump gave way to the meter type, and although a few scattered meters were being used in bulk plants a few years prior to that time, they were still very much a curiosity.

It was the introduction of the metered gasoline dispensing pump about ten years ago that, according to many in the industry, gave the real impetus to the meter as a necessary tool in the oil industry. The gasoline pump made the oil industry meter conscious and, gradually and with increasing assurance, the oil industry is finding the meter indispensable.

The old visible type of gasoline dispensing pump was the only type which actually showed the customer the product he was buying and so, when the meter replaced this visible type, the public's confidence had to be switched from a glass bowl which showed the actual product, to a dial face which simply indicated the amount of gasoline the purchaser was receiving.

The modern gasoline pump, containing not only a meter, but a mechanism which records the gallons and the total price, is one answer to the increasing acceptance of the meter in the oil industry. And still further developments continue. One of the most recent is the inclusion in a gasoline dispensing pump of a ticket printing mechanism similar to the type used in connection with meters on fuel oil trucks.

This type of pump unit is used particularly at stations catering to truck accounts and fleet operations such as taxicabs. The advantage of the ticket printing gasoline pump can readily be appreciated by the owner of a truck or car fleet. It takes the responsibility of proper ticket entries out of the hands of the driver and station attendant and into the unerring accuracy of a machine.

There are at present three basic types of meters in use in the oil industry. One is the reciprocating type, the second the oscillating piston type, and the third is the rotary type.

Early installations of meters were marked by examples of poorly designed plant layouts and in some cases faultily installed meters. The absence of strainers and air eliminators brought many meters to an early death, and the meter construction itself, following in the footsteps of the water meter, had not yet achieved the quality of close tolerances demanded by a more precious liquid such as gasoline.

But this was quickly remedied. Improvements in methods of machining, closer fits of rubbing surfaces, the introduction of the strainer and air eliminator as a safeguard for true meter measurement and protection, the use of non-reacting metal alloys, all these improvements have advanced the meter to a point today where it not only sets a pace for sustained accuracy, but also can be purchased at lower cost than was possible five or six years ago.

Meter manufacturers and the oil industry in general are in agreement that meterization of the industry has only begun. If it advances as rapidly in the next ten years as it has done in the past ten, and there are many who believe it will develop beyond that hope, then the industry can well say that it has entered upon a new era—a meterized era.

Meters In The Oil Industry

Although the liquid meter is hundreds of years old, it has only been in the past ten years that the oil industry has come to recognize this piece of equipment as a necessary conservation tool. Here are some of the important uses of the meter in the oil industry today.

1. Crude oil from wells to general storage tanks or gathering tanks.
2. Pipe lines, rail and water transportation of crude oil.
3. Refineries.
4. Pipe lines, rail and water transportation of gasoline, kerosene and cylinder stock, lube and fuel oil.
5. Bulk Storage.
6. Tank Trucks.
7. Service Station and retail dispensing.
8. Industrial Installations.
9. Domestic Fuel Oil Consumption.

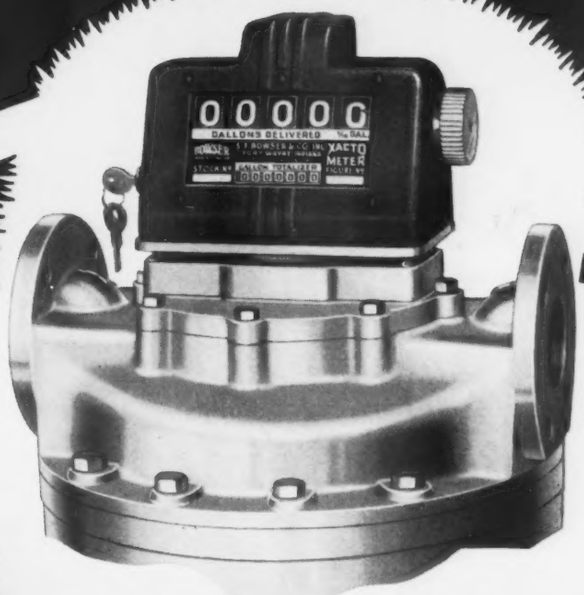
"Here's a new Bowser Dial with BIG figures—"

THAT LOOM UP LIKE A SORE THUMB"

EASY TO SEE

EASY TO READ

ERROR PROOF



for OLD OR NEW XACTO METERS

ILLUMINATED

Here's a Dial that you can really See! Look at it from the front — from a wide angle on either side — up close or from a distance — and see how the BIG figures of the New Model L loom up. Here's a dial that's modern . . . with visibility that saves eyes and steps . . . and compactness that saves space. It gives as new a meaning to VISIBILITY as Xacto Meter has to DEPENDABLE accuracy — accuracy that's perfect!

2

. . . And you can see it at NIGHT, too. For after-dark truck deliveries—for truck fills—the ILLUMINATED Figures "loom" right up. With short days soon coming, here's a feature that's important—and one that you have long wanted. It's yours in the Model L at NO extra cost!

A DOZEN REASONS
WHY THE MODEL L IS OUTSTANDING

- Straight Reading, even from an angle
- Error-proof Visibility (no clock type hands)
- Compact—saves space
- Illuminated Figures
- High Capacity Dial
- Big 1/10 Gallon Wheel
- "Flash-Action" gallon wheels
- Completely Bowser built
- Can be faced in numerous positions
- Can be used with Bowser Pre-determining Adapters
- Extremely simple to Operate
- BIG Figures

VISIBLE COMPACT ILLUMINATED

BOWSER ESTABLISHED 1885

S. F. BOWSER & COMPANY, Inc.

XACTO METER

"THE WORLD'S MOST WIDELY USED METER"

HOME OFFICE: FORT WAYNE, INDIANA SALES OFFICES IN MOST PRINCIPAL CITIES

This 1600-gallon truck is used for distributing lubricating oil exclusively. It is equipped with three meters and three pumps which save the truck two hours a day in its rounds

More Meters Being Used And in More Places

The variety of meter installations found at present in the marketing of oil products and the new developments being announced by the manufacturers of this equipment point to a wider field in its usefulness for the oil company in the future.

Manufacturers are confident that an important coming step in meter development will be a unit which will automatically correct a measurement reading to a base temperature used for all oil products affected by temperature changes. An electrically-operated counter has already been developed which makes possible reading the meter at some distance from the meter itself, which it is believed will facilitate the use of meters in refineries and large bulk plants.

IT'S an ill depression that blows nobody any business.

The meter is no exception, for, through two depression periods, this equipment has proved itself of value in many oil industry operations in preventing losses and holding down operating costs.

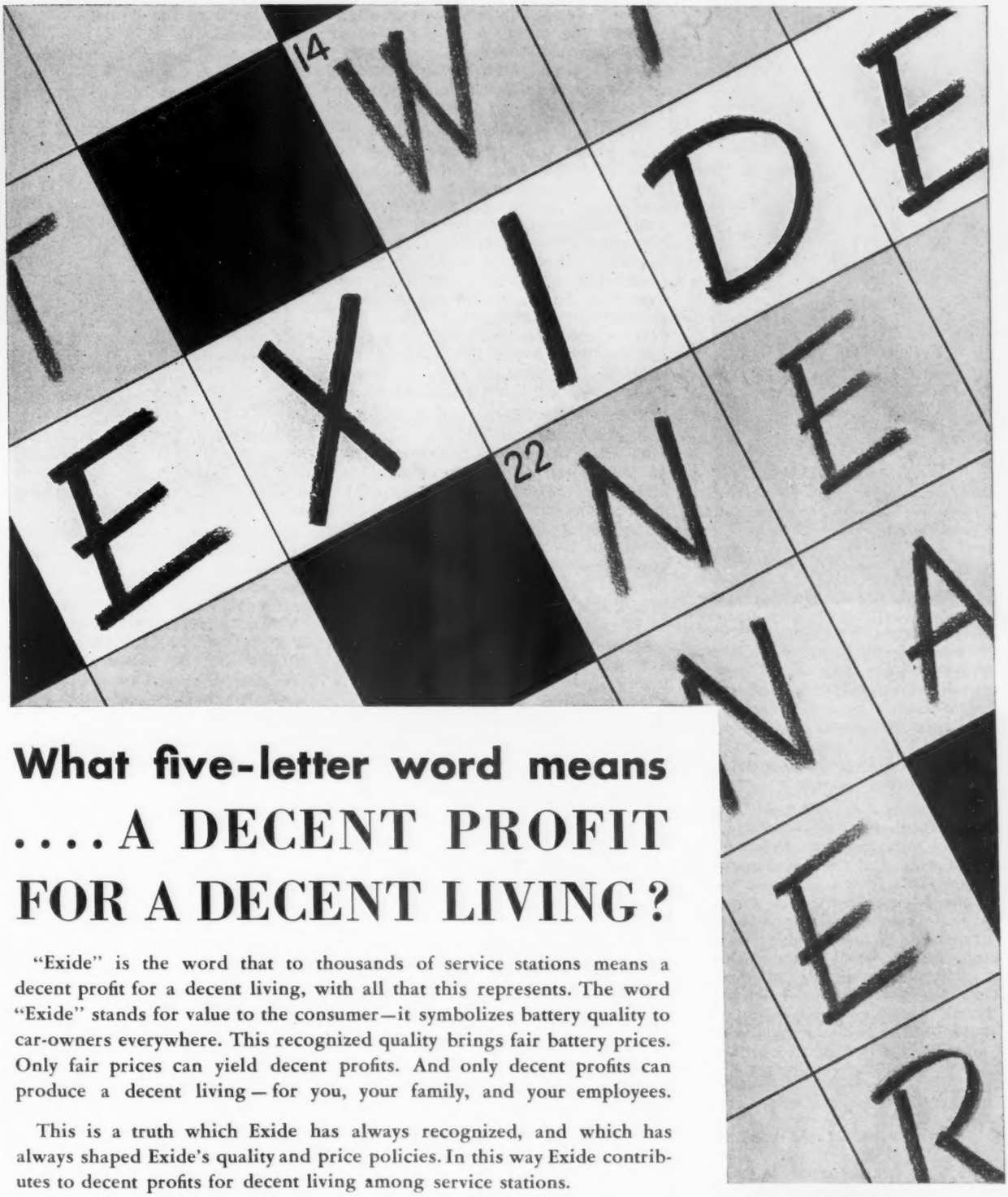
Today the meter is found at the well, where it measures the crude oil that comes from the ground. At pipeline stations it measures crude and gasoline as it leaves on a journey to distant points, and again when it arrives at those points. At refineries, the meter is found in the lines to the tube stills, and in locations where it can measure the refinery products.

It measures the products loaded and unloaded on barges and ships and tank cars. At bulk stations and marine terminals, incoming and outgoing products pass through meters. Trucks that haul the petroleum products to service stations, industrial plants, and customers' homes are equipped with meters to measure dumps accurately. At the service station, a cost recording metered gasoline pump accurately measures the gasoline that goes into the customer's gasoline tank. In the lubritorium, meterized grease dispensers indicate and measure the amount of lubricant going into the transmission and differential. Even in the home of the customer, there is often a meter which registers the amount of fuel oil feeding to his oil burner.

Meters also find a wide application in the barreling and canning of oil and lubricants. Compounders of lubricating oils use meters to automatically blend neutrals and bright stocks. One company uses meters at its refinery to measure the amount of top cylinder lubricant it adds to its gasoline. The meter is also used to measure refinery sludge, and such products as asphalt and tar. A meter is now under development which will measure the amount of fuel consumption of an automobile engine.

TRUCKS in recent years have become increasingly persistent users of meters. Those used for refueling airplanes and for fuel oil delivery have almost universally adopted the meter; in the latter case it is required by law in some localities.

An increasing number of transport trucks are equipped with meters, particularly those which deliver part of their load to service stations enroute. The meter is finding favor, also, on retail gasoline trucks, operating between bulk plants and service stations. With dealer-operated stations, the meter offers the station operator more freedom of choice of the number of gallons to be dumped, and one company, after making specific tests on this type of truck equipment, found that the dealer usually took more gasoline when the truck was



What five-letter word means

....A DECENT PROFIT FOR A DECENT LIVING?

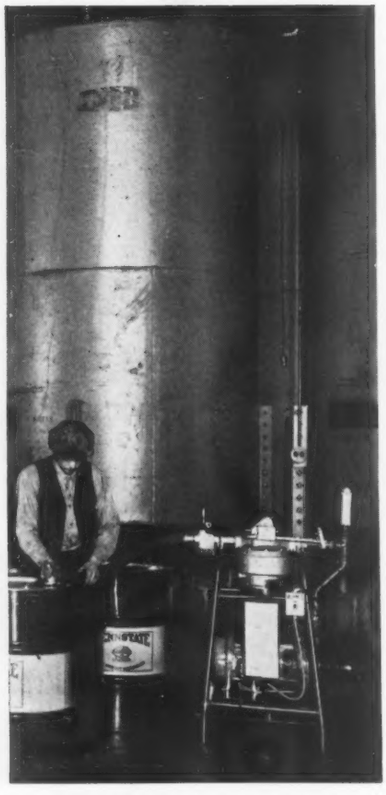
"Exide" is the word that to thousands of service stations means a decent profit for a decent living, with all that this represents. The word "Exide" stands for value to the consumer—it symbolizes battery quality to car-owners everywhere. This recognized quality brings fair battery prices. Only fair prices can yield decent profits. And only decent profits can produce a decent living—for you, your family, and your employees.

This is a truth which Exide has always recognized, and which has always shaped Exide's quality and price policies. In this way Exide contributes to decent profits for decent living among service stations.

THE ELECTRIC STORAGE BATTERY CO., Philadelphia

The World's Largest Manufacturers of Storage Batteries for Every Purpose

Exide Batteries of Canada, Limited, Toronto



The meter is becoming indispensable in the canning, barreling and compounding of oils. Here is shown barrel-filling operation through portable meter unit equipped with motor pump set

metered, than when it was dependent upon compartment dumps.

An interesting development has sprung up in the middle west which one meter manufacturer feels will open up a wide field for future meter application. This is the use of a meter on the farm delivery tank truck. Several of these installations have been reported, a few having hand pumping devices, and some using power driven pumps. One of these truck owners has rigged up his truck with an old gasoline dispensing pump and motor which receives its power from storage batteries carried on the truck.

ONE meter manufacturer recently stated that the dream of the oil executive is "not winged cities, but the day when his products can be metered from the source of supply to the point of consumption and automatically corrected to a base temperature."

A number of manufacturers agree that one of the next important steps in meter development will be a unit that will automatically correct a reading to a base temperature which will be used in measuring all petroleum products that are affected by temperature changes.

Most look to the bulk plant and water terminal as the largest potential users of meters in the immediate future, although the opinion is general that future of the meter is bright in all points of the distributing system. The fallacy of trying to compare close meter readings at the service station and bulk plant with the gage stick method has already been recognized.

The trend of meter installations at bulk plants and terminals indicates that, in the future, there will be a greatly increased use of meters for measuring both incoming and outgoing deliveries. The growth of the transport or bulk haul truck, with its operating schedule on a 24-hour basis, means that many loads are being delivered at bulk plants at night when no one is in attendance. Plant operators receiving their loads in this manner have found the meter indispensable in checking the incoming loads when only the truck driver is in attendance.

Combination fuel oil and gasoline tank trucks have advanced the use of the meter on truck installations and, while the meter is considered almost a "must" on domestic fuel oil trucks, its use on retail gasoline trucks is still in its first stages. This latter application has increased greatly in the past year and there is every indication that it will be an important future type of installation.

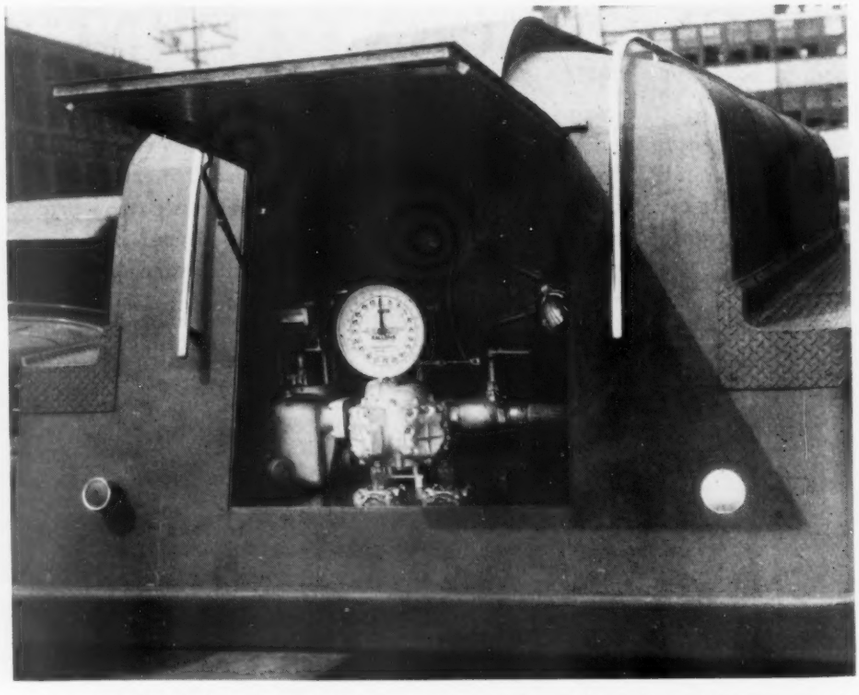
Some are of the opinion that meters will be used extensively in the future in the loading and unloading of barges. It is pointed out that loading from the tank farm through meters to the barge is a simple installation and very effective. Unloading of the barge through the meters, however, requires more care due to the "stripping" that occurs when the last few gallons are pumped. Here a considerable amount of air may be pumped with the liquid and must be eliminated.

Portable meter installations are finding wide favor in canning and barreling operations, compounding plants, pipeline gathering points, refineries, and large terminals. Many types of carriers are used for these portable units, ranging from a dolly truck carrying only a meter which rides on a track in front of a battery of oil tanks in a compounding plant, to a large motor truck chassis on which are mounted a meter, strainer and air eliminator for use at a pipeline station.

METERS are now made which can be set for a pre-determined delivery and will automatically shut off when that amount has been dumped. One type is available which can be pre-set for any quantity from 1 to 99 gallons. One and five-quart setting mechanisms are also available for use in canning operations.

An electrically operated counter has been developed for meters which operates on current impulses, which makes possible the reading of the meter at many miles distance from the meter itself. This device is being used to some extent in pipeline territories and at wells, where meters are located at various points and the controls which operate the counters can be brought to a central point. It is expected that this development will soon find its way into refineries and large bulk plants and terminals.

The growth of the diesel engine has opened up a field for the meter, which



The meter-equipped fuel oil truck is now a common sight. Ticket printer attachments are also becoming widely used, and the placing of meters on retail gasoline trucks is also increasing

A new use for the receipt ticket printer . . . in the gasoline dispensing pump. The ticket printing pump is expected to interest mostly those stations catering to bus, truck, and car fleet business

is now finding a use in measuring the fuel consumption of the engine, particularly in the oil fields and in refineries.

One company has recently placed on the market a new tank truck metering unit that combines in a single casing the meter, strainer, air release and back pressure valve. It is particularly adaptable to trucks, being compact in size and light in weight. It has only one inlet connection, one outlet connection and one air connection to hook up, thus eliminating many flow-restricting angles, bends, and tees.

Another meter company has also developed a small meter for tank truck use. It is a 1¼-inch size, has a maximum safe rate of 50 gallons per minute, and according to the company, tests have shown that it will operate with extreme accuracy down to 4 g.p.m. Two meter companies have announced a high-visibility counter to replace the often confusing dial face. In place of a dial with hands, the new mechanism has large light colored figures on a black background, and can be easily read from an angle as well as from directly in front of the counter. Provision is made to illuminate the face.

One meter manufacturer has developed a pressure differential valve whose purpose is to protect the meter from excessive speed or racing in the event that the head or pump pressure may at any time deliver a flow in excess of the maximum rated capacity of the meter. In any meter, a differential pressure exists between the inlet and discharge sides of the meter. Due to mechanical and hydraulic friction existing within the meter, a certain amount of pressure is absorbed, thus the pressure on the inlet side will slightly exceed that of the discharge side.

This company, through its laboratory tests, has found that the faster the meter runs the greater becomes the differential pressure. It is the purpose of this pressure differential valve to enable the meter to stay constantly and automatically within a known differential "limit", regardless of the fluctuations in inlet pressure. The valve is connected close to the discharge side of the meter.

The printing meter, which produces delivery receipts indicating the exact number of gallons delivered, is finding a wide application on fuel oil truck installations. More recently has been the inclusion of this printing device into a gasoline dispensing pump, so that truck drivers and taxicab operators can now turn into their headquarters offices meter-stamped receipts showing their actual purchases on the road.

On many fronts in the oil industry the meter is showing the way toward more accurate control of the handling of its products. The meter has long since ceased to be an experiment.

A new hand meter for dispensing transmission and differential lubricants. The meter is a part of the dispensing gun, and is always entirely visible

Meter-Manifolding Offers Advantages

It is often advisable to manifold several meters, rather than to install one large meter, when measuring a large rate of flow through a pipe line.

An early objection to a multiple-meter installation was the inability to control the flow through each individual meter. One meter would usually take more of a load than the other, often exceeding its capacity, with the result that the records would not always be true.

One meter company has developed a special flow control valve, which functions only when the flow through any of the individual meters reaches the maximum capacity of the meters. For example, if a line had four 3-inch meters to handle 1000 gallons per minute, and if for any reason one meter was out of service, the line could still be operated and the valves would automatically hold the other three meters to three-quarters of the full capacity or 750 gallons per minute.

Another advantage of manifolding meters is that it allows for the removal of one meter at a time for periodical checking. The installation of multiple meters allows for increasing the flow through the pipelines, as it is possible at any time to add additional meters. Likewise, if at any time it is decided that the flow through this pipe line is to be greatly reduced, then one or more meters may be removed and used in some other location.

Manifolding of meters allows for flexible operation, simplicity of checking, and simplicity in repairs. It is not necessary to use chain hoists or cranes to take apart small meters, whereas 6 or 8-inch meters generally require some hoisting equipment for repairs in the field.

Computer Pump Sales On Upward Trend

More than 150,000 gasoline pumps valued at nearly $30,000,000 f.o.b. factory, were shipped during 1937, the U. S. Department of Commerce reports.

These figures compare with the previous two years as follows:

Year	Number	Value
1937	152,376	$28,708,277
1936	102,384	19,245,974
1935	64,547	11,189,695

Computing, power-operated, meter pumps made up nearly all of the 1937 shipments, showing the decided trend of modernization. In fact, 123,504 computing, power-operated meter pumps were shipped in 1937. Their value was $25,324,597. Of the remaining $3,500,000 worth of pumps shipped, $2,933,928 worth were non-computing, power-operated, meter pumps. This type totaled 19,324 units.

New Equipment

AND THE MANUFACTURERS

COMPUTING REGISTER — The Neptune Meter Co. of New York has announced a new type of computing register which is to be offered to all pump manufacturers operating under a Wayne license. This new computer has been under development for two years and is to be manufactured by the Neptune Meter Co. under their license and agreement with the Wayne Pump Co.

According to the Neptune company, this computing mechanism is readily interchangeable with other direct reading types now in service.

Among the advantages claimed for this computer are the following:

(1) All gears are mounted on horizontal shafts, thus reducing friction to a minimum and putting much less driving burden on the meter.

(2) Larger numeral wheels, permitting the use of larger figures.

(3) Price changes made by turning one small hand crank either backwards or forwards, which operation not only sets the price on the front and rear price-per-gallon numeral wheels, but at the same time sets the internal mechanism to compute at that particular price.

(4) The gallon and total price figures are reset backwards to zero, thus eliminating the necessity of shutters and reducing backlash to a minimum.

* * *

NEW METER MODEL—The meter line of the Smith Meter Co., Los Angeles, has been broadened by the addition of its newest and smallest product, a 1¼-inch meter for gasoline and fuel oil tank trucks and other uses.

Known as Model 3T-40, this meter has a normal capacity of 40 gallons per minute and a maximum safe rate of 50 g.p.m. According to the company, tests indicate it will operate with extreme accuracy down to 4 g.p.m. It can be furnished either with a horizontal reset counter or vertical dial, and also with a set-stop counter and valve for predetermined quantity delivery. For pump-equipped systems, a new air eliminator has been developed for the meter.

* * *

METER DIAL — A new meter dial, known as the Model "L" Straight Reading Dial, has just been announced by the S. F. Bowser & Co., Inc., Fort Wayne, Ind. The new dial, which may be installed on any Bowser Xacto meter, is of the straight-reading type, with figures that can be easily read

from the front or from a wide angle on either side.

On the smaller size dial, the reading includes a "tenths" indicator, and in the larger size the numbers are in gallons. A new rotary type base has been developed so that the dial may be turned in any of eight positions and internally locked in the desired position. The figures may be illuminated.

* * *

FUEL OIL METER—The Oil Equipment Mfg. Co., Beaver Falls, Pa., has just announced a new 75-gallon per minute fuel oil tank wagon meter. In its design, the company states that hydrostatic balance has been combined with positive displacement. Flexible expanding metal piston rings are provided to take up their own wear at every possible leakage point, thus contributing to the accuracy of the meter, according to the company announcement.

* * *

NEPTUNE BUYS AQUA—The Neptune Meter Co., New York, makers of bulk plant, truck and dispensing meters, has announced its purchase of all corporate stock of Aqua Systems, Inc., also of New York. Aqua is a well known manufacturer of gasoline dispensing pumps and pioneers of power operated metered systems of the hydraulic or flotation type.

According to Rollo K. Blanchard, Aqua president, the company, backed by Neptune facilities, will continue to manufacture and market a complete line of computing and non-computing pumps for gasoline dispensing service.

Besides Mr. Blanchard as president, the new officers of the company are: Charles F. Beckwith, vice president;

Wilshire Oil Co., Vernon, Calif.

★ NOTHING TO TIGHTEN, NOTHING TO GET OUT OF ADJUSTMENT

CHIKSAN BALL BEARING SWING JOINTS are pressure tight and easy turning. Wherever fluid passes through movable pipes or hose lines these Swing Joints will give longer service, greater efficiency and lower maintenance costs. Write for Catalog No. 38.

"SWING SAFELY WITH CHIKSAN SWING JOINTS"

CHIKSAN BALL BEARING SWING JOINTS

CHIKSAN OIL TOOL CO., LTD.

FULLERTON, CALIFORNIA ☆ SHELL BUILDING, HOUSTON, TEXAS

Albert C. Kaestner, secretary; H. W. Ballantine, treasurer; William J. Peter, chief engineer and assistant secretary; R. B. Stewart, assistant secretary. The factory headquarters and main office of the company will continue to remain as formerly at 2443 Third Ave., New York.

* * *

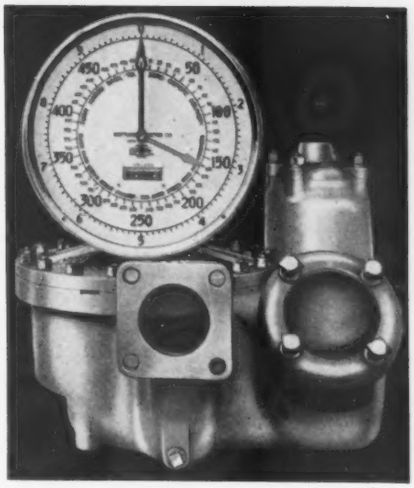
METER COUNTER — A new direct-reading meter counter, known as the Brodimatic Direct-Reading Counter, has been introduced by the Ralph N. Brodie Co., Oakland, Cal. In place of a dial with hands, it uses a new patented mechanism that produces what the manufacturer calls "snap-action".

Extra large yellow numerals on a black face are said to give a visibility equal to that of a 22-inch dial. The "snap-action" moves the numerals in and out of their windows and prevents them from becoming stranded in positions which would require a calculated reading.

* * *

TRUCK METER UNIT—A compact and lightweight metering unit for use on tank trucks has been announced by the Neptune Meter Co., 50 West 50th St., New York. The company claims it is ideal for installation in cramped places where space is at a premium.

The unit combines in a single casing a meter, strainer, air release and back pressure valve. The inlet, outlet and air connection each have only one point to hook up, eliminating flow-



retarding angles, bends and tees, and thus providing a faster flow rate.

The overall depth of the three-inch size does not exceed 19½ inches. Further information may be secured by obtaining Bulletins No. 660, 661, and 662 from the company.

* * *

HATFIELD JOINS HAYES—Paul L. Hatfield has joined the Hayes Equipment Mfg. Co., Wichita, Kans., as general manager. For many years he was associated with Ed Hayes, the founder of the company and had been assistant general manager in charge of both production and sales.

Some months ago a group of Wichita business men purchased the Hayes Equipment Mfg. Co. and also the stock and machinery of the Clear Vision Pump Co. Both enterprises were consolidated, and are operating under the name of the former, manufacturing and distributing pumps, lifts, compressors, tanks and other oil marketing equipment.

* * *

NEW FORMS—New model forms of the Mid-Continent Oil & Gas Assn.'s "Unit Operating Agreement" and the accompanying "Accounting Procedure Schedule" have been announced by Secretary Clarel B. Mapes following their adoption by the board of directors.

The new forms represent careful study and revision by lawyers, landmen and accountants who have had considerable experience in the unitization of oil and gas acreage and the conducting of unit operations. They will supplant the earlier model forms the association adopted in June, 1931.

* * *

SYNTHETIC HOSE — A synthetic rubber gasoline pump hose has been added to the line of solvent-resisting hose of the DeVilbiss Co., Toledo, O., according to a current company announcement. It is claimed the new hose is highly resistant to gasoline and oil, gives positive protection against seepage, and also offers controlled hose expansion and minimum flow resistance.

Full protection against fire hazards without loss of flexibility is said to be provided by an improved design of woven wire static eliminator.

Fuel and Range Oils

Before placing your contracts for any grades of heating and furnace oils as well as kerosene, for the coming heating season, we ask you to consider the following facilities which we have to offer.

Seaboard terminals, four refineries, definite sources of supply, modern loading equipment, and expert traffic and invoicing departments to insure prompt shipments.

This is for the benefit of the independent jobber and we ask that you afford us the opportunity of quoting on your requirements.

JAMES B. BERRY SONS' CO., INC. OIL CITY, PA.
Branch Offices: New York City; Chicago, Ill.; Boston, Mass.; Philadelphia, Pa.; Houston, Texas; London, England; Hamburg, Germany; The Hague, Holland.
Refineries: Oil City, Pa.; Emlenton, Pa.; Farmer's Valley, Pa.; St. Mary's, W. Va.
Ocean Terminals: Baltimore, Md.; Tiverton, R. I.; Dorchester, Mass.; Carteret, N. J.; Edgewater, N. J.; Glastonbury, Conn.; Philadelphia, Pa.
Berry...
A NAME TO REMEMBER

Markets

Mid-Western

CHICAGO, Aug. 8.—Spot gasoline movement continued to lag the first week of August, according to most resellers here. Offerings of all grades generally were reported ample. Contract shipments also were off slightly, resellers said.

Michigan refiners reported active demand both for straight run and higher octane gasolines, with prices generally unchanged.

Kerosine continued slow with freer offerings reported in some instances by Chicago marketers. Michigan refiners on the contrary reported steady kerosine demand. Movement was chiefly to farm areas, they said.

Pennsylvania

CLEVELAND, Aug. 8.—Lube demand continued heavy the first week of August, reports of western Pennsylvania refiners indicated. Gasoline was steady, kerosine easy, fuel oil and wax tight, they said.

Many refiners reported further advances in their neutral oil and bright stock quotations. Others, however, said they were still offering at prices to which they advanced the last week of July. Jobber demand was almost entirely for shipments against contracts, refiners said.

Lower field refiners reported advancing their fuel oil quotations 0.125 or 0.25 cent with 36-40 quoted at 3.75 to 4 cents. Prices of other products were reported unchanged.

California

LOS ANGELES, Aug. 6.—Scattered inquiry for bulk California oils was received from offshore buyers the past week. Most of this interest was catalogued as "feelers" by the trade, although some sales were reported and others were indicated as a result of promising inquiries.

An inquiry was received from Pacific foreign sources for a cargo of 400 e. p. gasoline, under 65 octane. Evidently surprised by firmness in prices quoted, the buyer was reported to have "withdrawn to consider."

One cargo of 24 gravity diesel-gas-oil was reported sold to Japan at a price not divulged, except that it was less than $1.00 a barrel.

In the domestic market several small independent refiners in the Los Angeles Basin raised their rack prices on gasoline to 7 cents, up 0.25 cent from previous quotations.

Mid-Continent

TULSA, Aug. 8.—Jobber interest in Mid-Continent gasoline quickened last week when majority of marketers advanced tank wagon gasoline prices 0.3 cent in most of the Mid-Western territory. Inquiries increased materially, although gasoline still was freely offered, trade reports indicated. Prices generally were reported unchanged.

Grade 26-70 natural gasoline prices advanced 0.25 cent. Supplies were closely held and difficult to obtain for immediate delivery, traders said.

Eastern

NEW YORK, Aug. 8.—Lower prices were reported for gasoline in the Boston market the first week of August, and reports of price shading continued in other key markets along the eastern seaboard.

While reports of offerings of high octane gasoline at less than 6.5 and 6.75 cents in tank cars and barges, respectively, persisted in the New York harbor market, a canvass failed to uncover open market offerings at under these prices.

Ideal motoring weather over much of the Atlantic seaboard territory has resulted in a jump in gallonage, according to reports of distributors.

N.P.N. Gasoline Index

	Dealer T.w. Cents per	Tank Car gal.
Aug. 8	10.24	6.14
Month ago	10.21	6.18
Year ago	10.67	6.74

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of 12 wholesale markets for regular-grade gasoline.

Coastal

NEW YORK, Aug. 8.—Increasing easiness of gasoline, particularly high octane grades for both domestic and export shipment, stood out in a dull market at the Gulf the first week of August.

While foreign inquiry continued at a virtual standstill, and with domestic buying reported relatively slow, reports were that offerings were freer and at lower prices.

Report of a cargo of low diesel index gas oil at 3.375 cents was heard. This material, according to reports, had a poor flash point, and even at shaded price was not finding a ready market.

Grade C bunker oil continued freely offered, with lower prices reported.

Fuel Oil

CHICAGO, Aug. 8.—Jobber interest in light fuels was spotty although some grades of tractor fuel and distillate were moving to northwestern farm areas, Chicago traders reported the past week.

Michigan refiners generally reported lower light fuel inventories.

Some marketers indicated slight improvement in the industrial fuel situation, but movement generally was still far from satisfactory, they said.

* * *

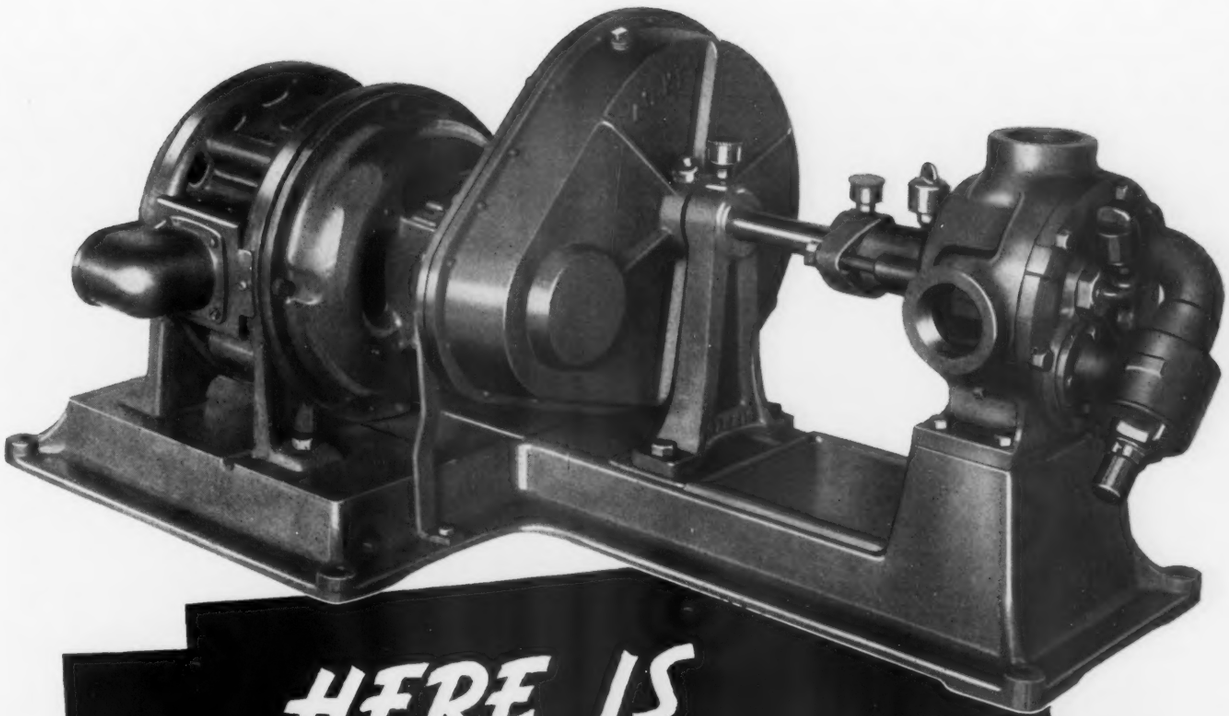
NEW YORK, Aug. 8.—Fuel oil prices in the New York and Boston markets continued steady at the higher levels reached the last week of July, according to trade reports the past week.

Movement of light fuels was slow since jobbers generally had filled available storage late in July before the price advances, sellers said.

Industrial fuel demand lagged although some traders said movement to certain of the smaller industrial centers had picked up slightly.

* * *

TULSA, Aug. 8.—Inquiries for light fuels and industrial oils continued in good volume but there were few open market sales, Mid-Continent suppliers reported last week. Some refiners said they had begun storing light fuels to meet the demand for heating oils this fall and winter.



HERE IS ONE PUMP THAT NEEDS NO PRIMING

It appears that prudent politicians are suffering no end in the knotty solution of today's pump priming problem.

Not so with the majority of pump buyers in the petroleum industry. Theirs is a much easier assignment. They have profitably set their plants in order with VIKING—the *self-priming pump*. Throughout this vast industry Viking leads all other makes of rotary pumps . . . a distinction won on merits and held on performance for the past 27 years. Give your plant the added advantages of Viking . . . the pump designed and built especially for the efficient handling of petroleum products. Write today for complete bulletins.

VIKING PUMP COMPANY
CEDAR FALLS, IOWA

REFINERY TANK CAR MARKETS

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days). Prices in cents per gallon except heavy fuel oils in dollars per barrel of 42 gallons, tank car lots, f.o.b. refineries in districts designated, except where otherwise noted. Inter-refinery and export prices not included, unless so stated in the respective markets. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Gasoline

Prices Effective	Aug. 8	Aug. 1
OKLAHOMA		
U. S. Motor: (Octane L-3)		
62 oct. & below	4.75 – 5.00	4.75 – 5.00
63-66 oct.	5.00 – 5.125	5.00 – 5.125
67-69 oct.	5.25 – 5.50	5.25 – 5.50
70-72 oct.	5.50 – 5.75	5.50 – 5.75
60-62, 400 e.p.	4.75 – 4.875	4.75 – 4.875
WESTERN PENNA.		
Bradford-Warren:		
Motor gasoline:		
U. S. Motor (58-62°)	5.375– 5.50	5.375– 5.50
Min. 65 oct.	7.00 – 7.25	7.00 – 7.25
Min. 70 oct.	(e)7.50	(e)7.50
"Q" gasoline	(g)7.25	(g)7.25
Other districts:		
Motor gasoline:		
U. S. Motor (58-62°)	4.75 – 5.00	5.00 – 5.25
Min. 65 oct.	7.00	7.00
"Q" gasoline	(g)7.25	(g)7.25
CENTRAL MICHIGAN (a)		
Str.-Run Gasoline	(c) 4.875– 5.50	(c)4.75 –5.50
U. S. Motor: (Octane L-3)		
67-69 octane	(e)7.50	(e)7.50
70-72 octane	8.00 – 8.25	8.00 – 8.25
CALIFORNIA (3c tax to be added if used in state)		
U. S. Motor:		
54-58, for instate shipment	7.00 – 9.25	6.75 – 9.25
54-58, for outside state shipment	7.00 – 9.00	6.75 – 9.00
58-61, 375-400 e.p., 65 oct. & above	7.75 – 9.75	7.75 – 9.75
N. TEX. (b)		
U. S. Motor: (Octane L-3)		
62 oct. & below	4.75 – 5.00	4.75 – 5.00
63-66 oct.	5.00 – 5.50	5.00 – 5.50
67-69 oct.	5.25 – 5.625	5.25 – 5.625
70-72 oct.	5.625– 5.75	5.625– 5.75
60-62, 400 e.p.	4.75	4.75
KANSAS (For Kansas destinations only)		
U. S. Motor: (Octane L-3)		
62 oct. & below	5.00 – 5.25	5.00 – 5.25
70-72 oct.	5.75 – 6.00	5.75 – 6.00
W. TEX. (b)		
U. S. Motor: (Octane L-3)		
62 oct. & below	4.875– 5.00	4.875– 5.00
63-66 oct.	5.125– 5.25	5.125– 5.25
67-69 oct.	5.50 – 5.625	5.50 – 5.625
70-72 oct.	5.75 – 5.875	5.75 – 5.875
E. TEX.		
60-62, 400 e.p.	4.50 – 4.625	4.50 – 4.625
N. LA. (For shipment to La. & Ark.)		
U. S. Motor: (Octane L-3)		
62 oct. & below	4.75	4.75
63-66 oct.	(e)5.125	5.125
67-69 oct.	(e)5.25	(e)5.25
70-72 oct.	5.75	5.75
ARKANSAS (F.o.b. Ark. plant of one refiner, for shipment to Ark. & La.)		
U. S. Motor: (Octane L-3)		
62 octane & below	5.00	5.00
67-69 oct.	5.50	5.50
OHIO (Quotations of S. O. Ohio. Delivered anywhere in Ohio).		
U. S. Motor	8.375	8.375
Above 65 oct.	8.625	8.625

Natural Gasoline

(Prices to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

F.O.B. GROUP 3		
Grade 26-70	3.25	3.00
F.O.B. BRECKENRIDGE		
Grade 26-70	3.25	3.00
CALIFORNIA (F.o.b. plants in Los Angeles basin)		
75-85, 350-375 e.p. for blending	6.50 – 6.75	6.50 – 7.00

Kerosine

Prices Effective	Aug. 8	Aug. 1
WESTERN PENNA.		
Bradford-Warren:		
45 w.w.	5.125– 5.25	5.125– 5.25
46 w.w.	5.25 – 5.375	5.25 – 5.375
Other districts:		
45 w.w.	5.00	5.00 – 5.25
46 w.w.	5.125	5.125
47 w.w.	5.25	5.25 – 5.375
CENTRAL MICHIGAN (a)		
47-49 w.w.	4.80 – 5.25	4.80 – 5.25
OKLAHOMA		
41-43 w.w.	4.125– 4.375	4.125– 4.375
42-44 w.w.	4.375– 4.625	4.375– 4.625
KANSAS (For Kansas destinations only).		
41-43 w.w.	4.50 – 4.625	4.50 – 4.625
42-44 w.w.	4.75 – 5.00	4.75 – 5.00
N. TEX. (b)		
41-43 w.w.	4.25 – 4.50	4.25 – 4.50
N. LA. (For shipment to La. and Ark.)		
41-43 w.w.	4.125– 4.50	4.125– 4.50
ARK. (F.o.b. Ark. plant of one refiner, for shipment to Ark. and La.)		
41-43 w.w.	4.625	4.625
CALIFORNIA		
40-43 w.w.	5.00 – 7.00	5.00 – 7.00

Gas *and* Fuel Oils

WESTERN PENNA.		
Bradford-Warren:		
36-40	3.875– 4.00	3.875– 4.00
Other districts: (Excluding Pittsburgh District Prices).		
36-40	3.75 – 4.00	3.75
CENTRAL MICHIGAN (a)		
P.W. Distillate	4.50 – 4.75	4.50 – 4.75
No. 3 gas oil, Str.	4.00 – 4.25	3.875– 4.25
U.G.I. gas oil	3.50 – 4.00	3.50 – 4.00
Fuel Oils (Vis. at 100):		
500-700 Vis.	2.375– 2.75	2.375– 2.75
300-500 Vis.	2.50 – 3.00	2.50 – 3.00
100-300 Vis.	2.75 – 3.25	2.75 – 3.25
OKLAHOMA		
No. 1 prime white	3.75 – 4.00	3.75 – 4.00
No. 2 straw	3.375– 3.625	3.375– 3.625
U. G. I. gas oil	(d)3.00 –3.25	(d) 3.00 –3.25
28-30 zero fuel	3.25 – 3.375	3.25 – 3.375
24-26 fuel	(e)$0.925	(e)$0.925
18-22 fuel	(d) $0.775-$0.85	(d) $0.775-$0.85
14-16 fuel	(d) $0.70 -$0.80	(d)$0.70 -$0.80
KANSAS (For Kans. destinations only).		
No. 1 p.w. fuel oil	4.125	4.125
10-14 fuel oil	$0.45 –$0.80	$0.45 –$0.80
N. TEX. (b)		
No. 1 Prime white	(e)4.00	(e)4.00
N. LA. (For shipment to La. and Ark.)		
20-24 fuel	(e) $1.10–$1.15	(e) $1.10–$1.15
16-20 fuel	(e) $0.90–$0.95	(e) $0.90–$0.95
10-14 fuel	(e) $0.80–$0.85	(e) $0.80–$0.85
ARK. (F.o.b. Ark. plant ot one refiner, for shipment to Ark. and La.)		
No. 2 fuel	3.625	3.625
28-30 gas oil, zero	3.375	3.375
CALIFORNIA		
San Joaquin Valley:		
Heavy fuel	$0.60 –$0.75	$0.60 –$0.75
Light fuel	$0.75 –$0.85	$0.75 –$0.85
Diesel fuel (per gal.)	3.50 – 4.00	3.50 – 4.00
Stove dist. (per gal.)	3.75 – 6.00	3.75 – 6.00
Los Angeles:		
Heavy fuel	$0.50 –$0.90	$0.50 –$0.90
Light fuel	$0.65 –$1.00	$0.65 –$1.00
Diesel fuel (per gal.)	2.50 – 4.00	2.50 – 4.00
Stove dist. (per gal.)	2.75 – 6.00	2.75 – 6.00
San Francisco:		
Heavy fuel	$0.95	$0.95
Light fuel	$1.05	$1.05
Diesel fuel (per gal.)	4.50	4.50
Stove dist. (per gal.)	6.50	6.50

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Neutral Oils

Prices Effective	Aug. 8	Aug. 1
WESTERN PENNA. (Refiners report no open spot market sales being made to jobbers and give following as their quotations only.)		
Viscous Neutrals No. 3 col. (*Viscosity at 70° F.*)		
200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	(e)17.00	16.00 –17.00
10 p.t.	(e)16.00	15.00 –16.00
15 p.t.	(e)15.50	14.50 –15.50
25 p.t.	13.00 –14.00	12.50 –14.00
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	(e)16.00	15.00 –15.50
10 p.t.	(e)15.00	14.00 –14.50
15 p.t.	(e)14.50	13.50 –14.00
25 p.t.	12.00 –13.00	12.00 –12.50
SOUTH TEXAS		
Vis. Color		
Pale Oils: (*Vis. at 100°F.*)		
100 No. 1½-2½	4.75 – 5.25	4.75 – 5.00
200 No. 2-3	6.25	6.25
300 No. 2-3	6.75	6.75
500 No. 2½-3½	7.75	7.75
750 No. 3-4	8.25	8.25
1200 No. 3-4	8.75	8.75
2000 No. 4	9.00 – 9.25	9.00 – 9.25
Red Oils:		
200 No. 5-6	6.25	6.25
300 No. 5-6	6.75	6.75
500 No. 5-6	7.75	7.75
750 No. 5-6	8.25	8.25
1200 No. 5-6	8.75	8.75
2000 No. 5-6	9.00 – 9.25	9.00 – 9.25

Note: Red oil prices cover oils with green cast; blue cast red oils are slightly lower in some cases.

MID-CONTINENT (Vis. at 100° F.; F.o.b. Tulsa basis).

Pale Oils: (0 to 10 P.P.)		
Vis. Color		
60-85—No. 2	5.50	5.50
86-110—No. 2	6.00	6.00
150—No. 3	9.00	9.00
180—No. 3	10.00	10.00
200—No. 3	10.50	10.50
250—No. 3	11.50	11.50
280—No. 3	12.50	12.50
300—No. 3	13.00	13.00
Red Oils:		
180—No. 5	(e)9.00	(e)9.00
200—No. 5	9.50 –10.00	9.50 –10.00
280—No. 5	11.50 –11.75	11.50 –11.75
300—No. 5	(e)11.75	(e)11.75

Note: The following oils, of 15 to 25 p.p., are generally quoted these amounts under 0-10 p.p.; viscous oils, 0.5c; non-viscous, 0.25c. Viscous oils (150-300 vis.), No. 4 color, generally are quoted 0.5c above No. 5 color oils.

CHICAGO (Vis. at 100° F.)

Pale Oils 0 to 10 p.p.:		
Vis. Color		
60-85—No. 2	7.25	7.25
86-110—No. 2	7.75	7.75
150—No. 3	10.00	10.00
180—No. 3	11.00	11.00
200—No. 3	11.50	11.50
250—No. 3	12.50	12.50
Red Oils:		
180—No. 5	10.00	10.00
200—No. 5	10.50	10.50
250—No. 5	11.50	11.50
280—No. 5	12.50	12.50
300—No. 5	12.75	12.75

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower. To obtain delivered prices in Chicago, add 0.25c per gal.

Cylinder Stocks

MID-CONTINENT (F.o.b. Tulsa basis)		
Bright Stocks:		
190-200 Vis. at 210 °D.	(e)19.00	(e)19.00
150-160 Vis. at 210°D:		
0 to 10 p.p.	14.25 –16.00	14.25 –16.00
10 to 25 p.p.	13.50 –15.50	13.50 –15.50
25 to 40 p.p.	13.50 –15.00	13.50 –15.00
150-160 vis. at 210° E.	12.50 –15.00	12.50 –15.00

(a) Prices f.o.b. Central Michigan refinery group basis, for shipment within Mich. Shipments may originate at plants outside Central group. (b) For shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments. (c) Excluding Detroit shipment. (d) Nominal. (e) Only one refiner quoting. (f) No quotations reported. (g) Two refiners quoting to resellers holding licenses.

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LINCO

THE OHIO OIL COMPANY

GENERAL OFFICES - - FINDLAY, OHIO

ROBINSON, ILLINOIS TULSA, OKLAHOMA FT. WORTH, TEXAS

REFINERY TANK CAR MARKETS

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days) unless otherwise stated. Prices in cents per gallon, except heavy fuel oils in dollars per barrel of 42 gallons, wax and petrolatums in cents per pound in barrels, tank car lots, f.o.b. refineries in districts designated, except where otherwise noted. Inter-refinery and export prices not included unless so stated in the respective markets. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-337; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Cylinder Stocks (cont'd)

Prices Effective	Aug. 8	Aug. 1
Mid-Continent (cont'd)		
120 Vis. at 210° D		
0 to 10 p.p.	14.50 -15.125	14.50 -15.125
25 to 40 p.p.	(c)14.25	(c)14.25
600 S.R. Dark Green	5.00 - 7.50	5.00 - 7.50
600 S.R. Olive Green	6.50 - 7.50	6.50 - 7.50
631 S.R.	(c)12.50	(c)12.50
Black Oil	3.50 - 4.00	3.50 - 4.00
CHICAGO (Viscosity at 210°)		
Unfiltered Steam Refined:		
140	9.00	9.00
160	10.00	10.00
200	11.00	11.00
Bright stocks, 160 vis. at 210. No. 8 color:		
0 to 10 p.p.	15.75	15.75
15 to 25 p.p.	14.75	14.75
30 to 40 p.p.	14.25	14.25
E filtered Cyl. Stock	13.50	13.50

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Prices Effective	Aug. 8	Aug. 1
WESTERN PENNA. (Refiners report no open spot market sales being made to jobbers and give following as their quotations only.)		
600 S.R. filterable	8.00 - 8.50	8.00 - 8.50
650 S.R.	10.00 -11.50	10.00 -10.50
600 fl.	10.50 -12.50	10.50 -11.50
630 fl.	13.00 -14.00	13.00 -14.00
Bright stock, 145-155 vis. at 210°, 540-550 flash, No. 8 color:		
10 p.t.	15.50 -17.00	15.50
15 p.t.	15.00 -16.00	14.50
25 p.t.	13.00 -14.00	13.00 -14.00

Petrolatums

WESTERN PENNA. (In bbls., carloads; in tank cars, 0.5c less)		
Snow White	6.125	6.125- 6.25
Lily White	5.125	5.125- 5.25
Cream White	4.125	4.125- 4.25
Light Amber	2.50 - 2.625	2.625- 2.75
Amber	2.25 - 2.375	2.375- 2.50
Red	2.00	2.00 - 2.25

Wax

Prices Effective	Aug. 8	Aug. 1
WESTERN PENNA. (Refiners report no open spot market sales being made to jobbers and give following as their quotations only. In bbls., carloads, New York)		
122-124 A.m.p., w.c. scale	2.30 - 2.40	2.25 - 2.45
124-126 A.m.p., w.c. scale	2.30 - 2.40	2.25 - 2.45
OKLAHOMA (In bbls. or burlap bags, carloads)		
124-126 A.m.p., w.c. scale	2.35	2.35
CHICAGO (In bags, carload lots. Melting points are E.M.P. (A.S.T.M.) methods; add 3° F. to convert into A.m.p.)		
Fully refined:		
122-124	4.00	*4.00
125-127	(d)4.10	*(d)4.10
127-129	(d)4.45	*(d)4.45
130-132	(d)4.75	*(d)4.75
132-134	(d)5.00	*(d)5.00
135-137	(d)5.75	*(d)5.75

*Correction: This price correct for Aug. 1.

(a) Nominal. (b) Only one refiner quoting. (c) No price reported. (d) Same prices quoted in bags or slabs loose.

MID-WESTERN TANK CAR MARKET

(Prices group 3 basis; origin of shipments unknown)

Gasoline

Prices Effective	Aug. 8	Aug. 1
U. S. Motor: (Octane L-3)		
62 oct. and below	4.375- 5.00	4.375- 5.00
63-66 oct.	4.625- 5.25	4.625- 5.25
67-69 oct.	4.75 - 5.375	4.75 - 5.375
70-72 oct.	5.00 - 5.625	5.00 - 5.625

Kerosine

41-43 w.w.	3.50 - 4.375	3.50 - 4.375
42-44 w.w.	3.625- 4.50	3.625- 4.50

(a) Nominal.

Fuel and Gas Oils

Prices Effective	Aug. 8	Aug. 1
Domestic:		
No. 1 p.w.	3.50 - 3.875	3.50 - 3.875
No. 1 straw	3.375- 3.75	3.375- 3.75
No. 2 straw	3.125- 3.625	3.125- 3.625
No. 3	3.00 - 3.375	3.00 - 3.375
No. 5	(a) $0.65-$0.75	(a)$0.65-$0.75
Range oil	3.625- 4.00	3.625- 4.00
Industrial:		
No. 5	(a) $0.60-$0.65	(a)$0.60-$0.65

Prices Effective	Aug. 8	Aug. 1
Industrial (cont'd)		
No. 6	(a) $0.40-$0.50	(a)$0.40-$0.50
U. G. I. gas oil	(a) 2.875-3.00	(a)2.875- 3.00

Naphtha and Solvent

Stoddard solvent	5.875	5.875
Cleaners' naphtha	6.375	6.375
V. M. & P. naphtha	6.375	6.375
Mineral spirits	5.375	5.375
Rubber solvent	6.375	6.375
Lacquer diluent	7.375	7.375

DAILY GASOLINE PRICES

Daily range of gasoline prices as reported in PLATT'S OILGRAM (Week Ended Aug. 5, 1938)

	Aug. 1	Aug. 2	Aug. 3	Aug. 4	Aug. 5
U. S. Motor, (Octane Number determined according to L-3 Method in Okla., Texas and Mid-Western Districts):					
62 octane and below:					
Oklahoma	4.75 - 5.00	4.75 - 5.00	4.75 - 5.00	4.75 - 5.00	4.75 - 5.00
(b) North Texas	4.75 - 5.00	4.75 - 5.00	4.75 - 5.00	4.75 - 5.00	4.75 - 5.00
West Texas	4.875- 5.00	4.875- 5.00	4.875- 5.00	4.875- 5.00	4.875- 5.00
Mid-Western (Group 3 basis)	4.375- 5.00	4.375- 5.00	4.375- 5.00	4.375- 5.00	4.375- 5.00
63-66 octane:					
Oklahoma	5.00 - 5.125	5.00 - 5.125	5.00 - 5.125	5.00 - 5.125	5.00 - 5.125
(b)North Texas	5.00 - 5.50	5.00 - 5.50	5.00 - 5.50	5.00 - 5.50	5.00 - 5.50
West Texas	5.125- 5.25	5.125- 5.25	5.125- 5.25	5.125- 5.25	5.125- 5.25
Mid-Western (Group 3 basis)	4.625- 5.25	4.625- 5.25	4.625- 5.25	4.625- 5.25	4.625- 5.25
67-69 octane:					
Oklahoma	5.25 - 5.50	5.25 - 5.50	5.25 - 5.50	5.25 - 5.50	5.25 - 5.50
(b)North Texas	5.25 - 5.625	5.25 - 5.625	5.25 - 5.625	5.25 - 5.625	5.25 - 5.625
West Texas	5.50 - 5.625	5.50 - 5.625	5.50 - 5.625	5.50 - 5.625	5.50 - 5.625
Mid-Western (Group 3 basis)	4.75 - 5.375	4.75 - 5.375	4.75 - 5.375	4.75 - 5.375	4.75 - 5.375
70-72 octane:					
Oklahoma	5.50 - 5.75	5.50 - 5.75	5.50 - 5.75	5.50 - 5.75	5.50 - 5.75
(b)North Texas	5.625- 5.75	5.625- 5.75	5.625- 5.75	5.625- 5.75	5.625- 5.75
West Texas	5.75 - 5.875	5.75 - 5.875	5.75 - 5.875	5.75 - 5.875	5.75 - 5.875
Mid-Western (Group 3 basis)	5.00 - 5.625	5.00 - 5.625	5.00 - 5.625	5.00 - 5.625	5.00 - 5.625
Motor Gasoline, 60-64 octane:					
New York harbor	(a)6.50 -6.75	(a)6.50 -6.75	(a)6.50 -6.75	(a)6.50 -6.75	(a)6.50 -6.75
Philadelphia district	(a)6.50	(a)6.50	(a)6.50	(a)6.50	(a)6.50
Baltimore district	(a)6.50	(a)6.50	(a)6.50	(a)6.50	(a)6.50
Motor Gasoline, 65 octane & above:					
New York harbor	(a)6.75 -7.00	(a)6.75 -7.00	(a)6.75 -7.00	(a)6.75 -7.00	(a)6.75 -7.00
Philadelphia district	(a)6.75	(a)6.75	(a)6.75	(a)6.75	(a)6.75
Baltimore district	(a)6.75	(a)6.75	(a)6.75	(a)6.75	(a)6.75
U. S. Motor. 58-62°:					
Bradford-Warren (Western Penna.)	5.375- 5.50	5.375- 5.50	5.375- 5.50	5.375- 5.50	5.375- 5.50
Other districts (Western Penna.)	5.00 - 5.25	5.00 - 5.25	5.00 - 5.25	5.00 - 5.25	5.00 - 5.25
Motor Gasoline, Min. 65 octane:					
Bradford-Warren (Western Penna.)	7.00 - 7.25	7.00 - 7.25	7.00 - 7.25	7.00 - 7.25	7.00 - 7.25
Other districts (Western Penna.)	7.00	7.00	7.00	7.00	7.00
Motor Gasoline, Min. 70 octane:					
Bradford-Warren (Western Penna.)	(c)7.50	(c)7.50	(c)7.50	(c)7.50	(c)7.50
"Q" Gasoline:					
Bradford-Warren (Western Penna.)	(d)7.25	(d)7.25	(d)7.25	(d)7.25	(d)7.25
Other Districts (Western Penna.)	(d)7.25	(d)7.25	(d)7.25	(d)7.25	(d)7.25

(a) Nominal. (b) For shipment to Texas and New Mexico destinations; Group 3 prices are quoted on northern shipment.
(c) Only one refiner quoting. (d) Two refiners quoting to resellers holding licenses.

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TANK WAGON MARKETS

Tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes, where levied, are indicated in footnotes. Discounts to various classes of buyers also are shown in footnotes. These prices in effect Aug. 8, 1938, as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esselene
(Regular Grade)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J.	7.4	9.4	4	8
*Newark, N. J.	7.4	9.4	4	8
Annapolis, Md.	8.35	9.85	5	9.5
Baltimore, Md.	7.75	9.25	5	9
Cumberland, Md.	9.15	11.65	5	10
Washington, D. C.	8	9.5	3	9.5
Danville, Va.	8.45	10.95	6	12.9
Norfolk, Va.	7.25	9.75	6	11.5
Petersburg, Va.	7.55	10.05	6	11.7
Richmond, Va.	7.55	10.05	6	11.7
Roanoke, Va.	8.75	11.25	6	12.9
Charleston, W. Va.	8.55	11.05	6	12.6
Parkersburg, W. Va.	7.85	9.35	6	11.2
Wheeling, W. Va.	8.85	10.25	6	12.2
Charlotte, N. C.	9.15	11.65	7	12.1
Hickory, N. C.	9.65	12.15	7	12.5
Mt. Airy, N. C.	9.45	11.95	7	12.3
Raleigh, N. C.	8.75	11.25	7	11.6
Salisbury, N. C.	9.25	11.75	7	12.2
Charleston, S. C.	7.75	10.25	7	10.6
Columbia, S. C.	8.75	11.25	7	11.6
Spartanburg, S. C.	9.45	11.95	7	12.4

Discount to undivided dealers: Dealer t.w. price less 0.5c per gal.

*Effective June 21, 1938, S. O. New Jersey posted a minimum retail resale price of 11.9c at these two points.

Note: While the above posted prices continue in New Jersey, dealers will pay a net price of 8.9c per gal. for Esselene. Dealers having pumps marked only Esso, Esselene and "Standard" White gasoline will pay 8.4c per gal. for Esselene.

Price basis to commercial consumers: To contract accounts, purchasing at least one full compartment at a time by hose connection: Effective March 12, 1937, in New Jersey, and March 8 in Maryland, District of Columbia, and in Arlington and Fairfax Counties in Virginia, on yearly purchases: from 2,500 to 100,000 gals., consumer t.w. price at time and place of delivery; 100,000 gals. per year consumer tank car price, plus 0.5c per gal. Generally consumer t.w. price in foregoing states is equivalent of dealer t.w. price, less 0.5c per gal.

Effective May 15, 1937, on Esselene and Esso (by tank wagon) in North and South Carolina, West Virginia and Virginia (except Arlington and Fairfax Counties, which see above), commercial consumers taking deliveries of 50 gals. (West Va. 100 gals.) or more at one time will be billed at the posted consumer t.w. price. Deliveries less than 50 gals. (West Va. 100 gals.) will be billed at 4c per gal. over posted consumer t.w. price. Generally, posted consumer t.w. price will be equivalent to the dealer price less 0.5c per gal.

Kerosine Discount: 1c off t.w. price for 25 gals., or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

Socony-Vacuum Oil Co., Inc.

(S. O. New York Division)

Socony Mobilgas
(Regular Grade)

	Consumer Tank Car	"Split" Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Metropolitan N. Y. City:				
Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens)	7.5	8.9	*5	8
Borough of Richmond (Staten Is.)	7.5	8.9	*5	8
Albany, N. Y.	7.8	9.8	5	8.5
Binghamton, N. Y.	9	10.6	5	9
Buffalo, N. Y.	8.4	9.5	5	8
Jamestown, N. Y.	8.1	10.6	5	8.25
Plattsburg, N. Y.	8.3	10.3	5	9.5
Rochester, N. Y.	8.5	10.3	5	8.5
Syracuse, N. Y.	8.1	9.5	5	9
Danbury, Conn.	8.1	10.1	4	9
Hartford, Conn.	7.9	9.9	4	7
New Haven, Conn.	7.8	9.8	4	7
Bangor, Me.	8.25	10.3	5	9
Portland, Me.	7.75	10	5	8.75
Boston, Mass.	7.50	9	4	8
Concord, N. H.	8.6	10.5	5	9
Lancaster, N. H.	9.7	12	5	10.25
Manchester, N. H.	8.3	10	5	8.5
Providence, R. I.	7.50	9	4	8
Burlington, Vt.	8.4	10.4	5	9.5
Rutland, Vt.	8.6	10.7	5	9

*Plus 2% city sales tax computed at time of each sale.

Discount to undivided dealers: 0.5c less than "split" dealer t.w.

Price basis to commercial consumers: Effective about Nov. 15, 1936 in New York and New England for tank wagon delivery: monthly purchases of 25,000 gals. or over, pay consumer tank car price at point of delivery, plus 0.5c gal.; monthly purchaces of 5,000 to 25,000 gals., pay undivided dealer tank wagon price at point of delivery; monthly purchases of less than 5,000 gals., pay divided dealer tank wagon price at point of delivery. Private consumers pay undivided dealer tank wagon price at point of delivery, plus 2c gal.

Atlantic Refining

Atlantic White Flash Gasoline
(Regular Grade)

	Commercial Tank Car	Dealer T.W.	Gasoline S.S.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa.	7.25	8.75	12	5	10
Pittsburgh	8	10	15	5	10.5
Allentown	7.75	9.25	**	5	10.5
Erie	8	9.5	**	5	10
Scranton	8	9.5	**	5	10.5
Altoona	8	10	**	5	10.5
Harrisburg	7.5	9	**	5	10.5
Williamsport	8	10	**	5	10.5
Dover, Del.	...	8.5	**	5	10.5
Wilmington	...	7.5	**	5	9.75
Boston, Mass.	...	9	**	4	8
Springfield, Mass.	...	9.5	**	4	8
Worcester, Mass.	...	9	**	4	8.5
Fall River, Mass.	...	9	**	4	8
Hartford, Conn.	...	9.6	**	4	7
New Haven, Conn.	...	9.5	**	4	7
Providence, R. I.	...	9	**	4	8
Atlantic City, N. J.	...	8.60	**	4	8
Camden, N. J.	...	8.60	**	4	8
Trenton, N. J.	...	8.60	**	4	8
Annapolis, Md.	...	9.85	**	5	9.5
Baltimore, Md.	...	9.25	**	5	9
Hagerstown, Md.	...	10.35	**	5	10
Richmond, Va.	...	10.05	**	6	11.7
Wilmington, N. C.	...	10.35	**	7	10.8
Brunswick, Ga.	...	10	**	7	*13
Jacksonville, Fla.	...	8.5	**	8	11

*Georgia has kerosine tax of 1c per gal., not included in above price.

**Atlantic Refining transferred stations to dealers; no prices available.

Discount to undivided dealers: Dealer t.w. less 0.5c per gal. except in Georgia and Florida, dealer t.w. and undivided dealer price is same.

Price basis to commercial consumers: consumers under contract, in Penna. and Delaware, effective Mar. 11, 1937, on yearly gasoline purchases taking full compartment hose deliveries, using 100,000 gals. or more per year, tank car price plus 0.5c per gal.; consumers taking less than 100,000 gals., undivided dealer price. Consumers under contract and not under contract, taking less than full compartment delivery, and consumers not under contract taking full compartment delivery, get divided dealer price. Consumers taking less than 25 gals., t.w. delivery, get 4c above undivided dealer price.

Discount on kerosine: Effective Oct. 29, 1936, in Pennsylvania and Delaware, 2c per gal. off t.w. price on t.w. deliveries of 25 gals. or more at one time.

S. O. Ohio

Sohio X-70 Gasoline
(Regular Grade)

	Consumer T.W.	†Divided Dlr.	Gasoline Taxes	Kerosine T.W.
Ohio State-wide	11.5	10.5	5	*12
Counties where prices are below statewide:				
Butler, Clark, Clinton, Columbiana, Defiance, Greene, Knox, Montgomery, Pickaway and Preble:	11	10	5	....
Hamilton	11	9.5	5	....
Franklin and Paulding:	10.5	9.5	5	....

Renown Gasoline
(Third Grade)

Ohio State-wide	11	10	5	....
Counties where prices are below statewide:				
Hamilton	11	9.5	5	....
Clark, Columbiana, Defiance, Knox and Pickaway	10.5	9.5	5	....
Franklin and Paulding:	10	9	5	....
Counties where prices are above statewide:				
Clermont, Darke, Miami and Warren:	11.5	10.5	5	....

S. O. Ohio Cont'd

Kerosine Prices

(Off Statewide Level)

Kerosine prices are off statewide level in the following counties:

Allen, Auglaize, Champaign, Columbiana, Darke, Geauga, Greene, Hardin, Logan, Mahoning, Mercer, Preble, Putnam, Shelby, Trumbull and Van Wert *11.5
Paulding *11
Ashtabula *10.5
Fayette, Madison, Pickaway, Portage and Summit *8.5

†This price also to authorized agents, exclusive of 0.5c rental. Discount to undivided dealers: 0.5c less than divided dealer t.w.

*Ohio has kerosine tax of 1c per gal., not included in above prices.

Commercial Tank Wagon Q.D.A. to contract accounts: Effective Oct. 20, 1937, thru Ohio (except in 30 counties), on monthly purchases, off posted consumer t.w. price: 0 to 999 gals., 0.5c; 1,000 to 19,999 gals., 1.5c; 20,000 gals. and over, 2.5c. The 30 counties where Q.D.A. differs from statewide are: Allen, Ashtabula, Auglaize, Butler, Champaign, Cuyahoga, Darke, Defiance, Erie, Fulton, Geauga, Hamilton, Hancock, Hardin, Henry, Logan, Lorain, Lucas, Mahoning, Mercer, Ottawa, Paulding, Putnam, Sandusky, Scioto, Shelby, Trumbull, Van Wert, Washington, Williams and Wood.

Sales tax: Ohio's 3% sales tax, effective Jan. 27, 1935, is added "where assessable, to regular posted prices," S. O. Ohio says.

On kerosine, prices to resellers and commercial consumers are posted generally at 3c per gal. below consumer t.w. price in any quantity, when such prices are on statewide level.

S. O. Kentucky

Crown Gasoline
(Regular Grade)

	Consumer T.W.	Net Dlr.	Gasoline Taxes	Kerosine T.W.
Covington, Ky.	12	9	6	10.5
Lexington, Ky.	13.5	10.5	6	10.5
Louisville, Ky.	13	10	6	10
Paducah, Ky.	10.5	7.5	6	10
Jackson, Miss.	12.5	9.5	7	*10
Vicksburg, Miss.	13	10	7	*10
Birmingham, Ala.	13.5	10.5	*8	12
Mobile, Ala.	13	10	*9	9.5
Montgomery, Ala.	12.5	10.5	*9	*12
Atlanta, Ga.	12	9	7	*12
Augusta, Ga.	12.5	9.5	7	*11.5
Macon, Ga.	14.5	11.5	7	*12
Savannah, Ga.	13	10	7	*11
Jacksonville, Fla.	12.5	9.5	8	8
Miami, Fla.	13	10	8	12.5
Pensacola, Fla.	11.5	8.5	*9	12
Tampa, Fla.	11	8	8	10.5

Kyso Gasoline
(Third Grade)

Covington, Ky.	10.5	8	6	....
Lexington, Ky.	12	9.5	6	....
Louisville, Ky.	11.5	9	6	....
Paducah, Ky.	10	7.5	6	....
Jackson, Miss.	10.5	8	7	....
Vicksburg, Miss.	11.5	9	7	....
Birmingham, Ala.	11.5	9	*8	....
Mobile, Ala.	10.5	8	*9	....
Montgomery, Ala.	11.5	9	*9	....
Atlanta, Ga.	10	7.5	7	....
Augusta, Ga.	11	8.5	7	....
Macon, Ga.	12.5	10	7	....
Savannah, Ga.	9.5	7	7	....
Pensacola, Fla.	10.5	8	*9	....
Tampa, Fla.	10	7.5	8	....

Discounts to all tank wagon consumers: Effective Jan. 4, 1937, thru territory, on Crown gasoline, 3c per gal. below consumer t.w. price; on Kyso, 2.5c below, regardless of quantity purchased, per month.

**Taxes*: In the tax column is included these city and county gasoline taxes at the following points: Mobile, 2c city; Birmingham, 1c city; Montgomery 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have kerosine taxes of 1c per gal., and Mississippi 0.5c, not included in above prices.

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:
Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/5c per gal. in lots up to 25 bbls.; 2/25c per gal. in lots of 25 bbls. or more; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal. lots of more than 50 in bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 1/25c.
Kerosine inspection fee only: Iowa, 3/50c; Michigan, 1/5c per gal.

TANK WAGON MARKETS

Tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes shown in separate column, include 1c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes, where levied, are indicated in footnotes. Discounts to various classes of buyers also are shown in footnotes. These prices in effect Aug. 8, 1938, as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Prices Red Crown	Stanolind	Gasoline Taxes	Kerosine T.W.
Chicago, Ill.	11.6	9.6	6.4	4	10.5
Decatur, Ill.	11.6	10.1	8	4	10.5
Joliet, Ill.	11.6	10.1	8.4	4	10.5
Peoria, Ill.	11.6	10.1	9.6	4	10.5
Quincy, Ill.	11.4	9.9	8.8	4	10.3
Indianapolis, Ind.	12.3	10.8	8.9	5	*11.2
Evansville, Ind.	12.1	10.6	9.1	5	*11
South Bend, Ind.	12.6	11.1	9.2	5	*9
Detroit, Mich.	10.3	8.8	7.5	4	9
Grand Rapids, Mich.	10.8	9.8	9.8	4	9.7
Saginaw, Mich.	12.3	10.8	10.3	4	9.3
Green Bay, Wis.	12.4	10.9	10.2	5	10.3
Milwaukee, Wis.	11.8	10.3	9.5	5	10.7
La Crosse, Wis.	12	10.5	10	5	10.9
Minneapolis-St. Paul	12	10.5	10	5	10.9
Duluth, Minn.	12.4	10.9	10.4	5	11.3
Mankato, Minn.	12	10.5	10	5	10.9
Des Moines, Ia.	11.4	9.9	7.5	4	*10.3
Davenport, Ia.	11.6	10.1	9.6	4	*10.5
Mason City, Ia.	11.8	10.3	9.8	4	*10.7
St. Louis, Mo.	11.2	9.7	7.5	*4	10.1
Kansas City, Mo.	10.9	9.4	6.9	*4	8.5
St. Joseph, Mo.	10.9	9.4	8.9	*4	9.8
Fargo, N. D.	13.2	11.7	11.2	4	12.1
Minot, N. D.	14.5	13	12.5	4	13.4
Huron, S. D.	12.5	11	10.5	5	11.4
Wichita, Kans.	10.4	6.6	5.5	4	7.8

*Taxes: in the tax column is included these city and state gasoline taxes at following points: Kansas City, St. Joseph and St. Louis, 1c city tax. Kerosine taxes: Indiana has 4c, Iowa 3c per gal. state tax, not included in above prices.

Discount to commercial consumers: Effective Jan. 1, 1935, thru territory, except Michigan effective Feb. 1, on purchases per month, discount off t.w. prices; all gasolines, 25 to 1,000 gals., at t.w. price; 1,000 gals., or more, 1.5c off t.w. on Ethyl and Red Crown, and 1c on Stanolind (latter effective June 9, 1937). Minimum delivery is 25 gals.

S. O. Nebraska

Standard Red Crown Gasoline (*Regular Grade*)

	T.W. Dealer	Gasoline Taxes	Kerosine T.W.
Omaha, Neb.	12	10.5	6	10.8
McCook	11.5	10.5	6	10
Norfolk	12.4	10.9	6	11.2
North Platte	12.4	9.4	6	11
Scottsbluff	13.5	8.4	6	12.3

Discounts to commercial consumers: for tank wagon deliveries covered only by Standard Commercial Consumer Contract, effective January 1, 1935.

S. O. Louisiana

Essolene (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Little Rock, Ark.	7.75	10.25	7.5	10
Alexandria, La.	7.25	9.75	8	*9.5
Baton Rouge, La.	7.25	9.75	8	*11
New Orleans, La.	7.25	9.75	*10	*10
Lake Charles, La.	7.25	9.75	8	*11.5
Shreveport, La.	6	8.5	8	*8.5
Lafayette, La.	7.5	10	8	*11.5
Bristol, Tenn.	10.75	13.25	8	14.5
Chattanooga, Tenn.	10	12.5	8	13.5
Knoxville, Tenn.	10.5	13	8	14
Memphis, Tenn.	8.5	11	8	12
Nashville, Tenn.	9.5	12	8	10.5

*New Orleans gasoline tax includes 7c state, 1c federal, and 2c parish tax. Louisiana has kerosine tax of 1c per gal.; in addition New Orleans has 1c parish tax, none of which are included in above prices.

Price basis to dealers: Undivided dealers get dealer price, less 0.5c.

Price basis to commercial consumers: Effective May 15, 1937, thru territory; commercial consumers taking 50 gals. or more at one time will be billed at posted consumer t.w. price; those taking less than 50 gals. at one time will be billed at 4c per gal. over posted consumer t.w. price. Generally, the posted consumer t.w. price will be equivalent to the dealer price less 0.5c per gal.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)

	*T.W.	S.S.	Gasoline Taxes	Kerosine T.W.
Dallas, Tex.	9	13	5	8
Ft. Worth, Tex.	9	13	5	8
Houston, Tex.	9.5	13.5	5	8
San Antonio, Tex.	9	13	5	8

U. S. Motor Gasoline (*Third Grade*)

	*T.W.	S.S.	Gasoline Taxes
Dallas, Tex.	7	10	5
Ft. Worth, Tex.	7	10	5
Houston, Tex.	8.5	11.5	5
San Antonio, Tex.	7.5	10.5	5

*Price is t.w. price to all classes of dealers and consumers.

Continental Oil

Conoco Bronze (*Regular Grade*)
Demand (*Third Grade*)

	Dealer Prices— Conoco Bronze	Demand	Gasoline Taxes	Kerosine T.W.
Denver, Colo.	10.5	9.5	5	11.5
Grand Junc., Colo.	14	13	5	15
Pueblo, Colo.	11.5	10.5	5	10.5
Casper, Wyo.	12	11	5	11.5
Cheyenne, Wyo.	8	7	5	13
Billings, Mont.	13.5	12.5	6	13
Butte, Mont.	13.5	10.5	6	15.5
Great Falls, Mont.	13	12	6	15.5
Helena, Mont.	14	13	6	15.5
Salt Lake City, Utah	13	10	5	16
Boise, Ida.	15.5	14.5	6	18
Twin Falls, Ida.	15	14	6	18
Albuquerque, N. M.	11	10	†6.5	12
Roswell, N. M.	11	8.5	†6.5	10.5
Santa Fe, N. M.	12	9.5	*7	12
Muskogee, Okla.	9.5	7	5	7
Oklahoma City, Okla.	8.5	6.5	5	7
Tulsa, Okla.	7	5	5	7
Ft. Smith, Ark.	9.75	6.75	5	7.5
Little Rock, Ark.	9.75	8.125	7.5	8
Texarkana, Ark.	9	7	5	8

†Includes city tax of 0.5c.
*Includes 1c city tax.

S. O. California

Standard Gasoline (*Regular Grade*)

	T.W.	S.S.	Gasoline Taxes	Kerosine T.W.
San Francisco, Cal.	13.5	14.5	4	11.5
Los Angeles, Cal.	13	14	4	10
Fresno, Cal.	14.5	15.5	4	12.5
Phoenix, Ariz.	15.5	16.5	6	*12.5
Reno, Nev.	15.5	16.5	5	13.5
Portland, Ore.	14	15	6	13.5
Seattle, Wash.	14	15	6	13.5
Spokane, Wash.	17	18	6	16.5
Tacoma, Wash.	14	15	6	13.5

Flight Gasoline (*Third Grade*)

San Francisco, Cal.	12	13	4	....
Los Angeles, Cal.	11.5	12.5	4	....
Fresno, Cal.	13	14	4	....
Reno, Nev.	14	15	5	....
Phoenix, Ariz.	14	15	6	....
Portland, Ore.	12.5	13.5	6	....
Seattle, Wash.	12.5	13.5	6	....
Spokane, Wash.	15.5	16.5	6	....
Tacoma, Wash.	12.5	13.5	6	....

*Arizona has kerosine tax of 5c per gal., not included in above prices.

Discount to dealers: on gasoline, off t.w. price on Standard Ethyl and Standard Gasoline, to 100% dealers, 3c; to split dealers, 2c; on Flight gasoline, both 100% and split dealers, 2c.

On Stanavo Aviation Gasoline, to all classes of dealers, 3c off t.w.

To commercial consumers: off tank wagon price: on single deliveries of 40 gallons and over. Stanavo Aviation, Standard Ethyl and Standard Gasolines, 3c. Flight Gasoline, 2c per gallon. Tank wagon delivery, less than 40 gals., 1c per gal. above posted t.w. price. Discounts on kerosine: in tank cars, 3c off tank truck price; plant deliveries to jobbers, 2.5c below tank truck price.

Canada

PRICES OF IMPERIAL OIL LTD.
Per Imperial Gallon, which is 1.2 U. S. Gallons

3-Star Imperial Gasoline (*Regular Grade*)

	T.W.	Gasoline Taxes	Kerosine T.W.
Hamilton, Ont.	16	6	17
Toronto, Ont.	16	6	17
Brandon, Man.	21.1	7	22.3
Winnipeg, Man.	20.5	7	20.7
Regina, Sask.	19	7	22
Saskatoon, Sask.	21.3	7	24.8
Edmonton, Alta.	19.5	7	21.5
Calgary, Alta.	16.5	7	19
Vancouver, B. C.	16	7	23
Montreal, Que.	15	6	17.5
St. John, N. B.	14.5	10	18.5
Halifax, N. S.	14.5	10	18.5

Discounts to undivided dealers, 1c off t.w. price, except Maritime Provinces where undivided dealers pay t.w. price. Divided dealers pay t.w. price, thru territory.

Aviation Gasoline

Following are tank car, tank wagon or dealer prices, as indicated, of aviation gasoline in several marketing territories.

S. O. OHIO
Thru Ohio
Stanavo Ethyl Aviation

	Consumer T.W.	Gasoline Taxes
73 octane	15.5	5
80 octane	16.5	5
87 octane	17.5	5

Discounts: For delivery on contract to hangar operators and resellers: 2c below consumer posted t.w. price, shown above.

S. O. INDIANA
Stanavo Ethyl Aviation Gasoline
73 Octane Number

Chicago, Ill.	14.9	4
Detroit, Mich.	16.5	4
Milwaukee, Wis.	15.1	5
Minneapolis, Minn.	15.3	5
St. Louis, Mo.	14.5	3
Kansas City, Mo.	14.2	*4
Fargo, N. D.	16.5	4
Huron, S. D.	15.8	5

*Includes 1c city tax.

HUMBLE OIL & REFINING CO.
Aviation Gasoline

	Tank Car
Baytown, Tex.	8.5

CONTINENTAL OIL CO.
Conoco Special Gasoline

	Dealer	Gasoline Taxes
Denver, Colo.	14.5	5
Cheyenne, Wyo.	15	5
Helena, Mont.	17	6
Salt Lake City, Utah	17.5	5
Albuquerque, N. M.	14	*6.5

*Includes city tax of 0.5c.

S. O. CALIFORNIA
Stanavo Aviation Gasoline

	T.W.	
Phoenix, Ariz.	17.5	6
Los Angeles, Cal.	15	4
San Francisco, Cal.	15.5	4
Reno, Nev.	17.5	5
Portland, Ore.	16	6
Seattle, Wash.	16	6
Spokane, Wash.	19	6

Note: For discounts, etc., see note under Standard and Flight gasoline above.

Naphtha (In Tank Wagon)

S. O. NEW JERSEY

	Posted Tank Wagon Prices Mineral Spirits	V.M.&P.
Newark, N. J.	11.5	15.5
Baltimore, Md.	15.5	....
Washington, D. C.	15	....

Discounts: Buyers taking following quantities, at one time, get these discounts: Newark, 2c per gal. on 200 gals. or more; less than 200 gals., 0.5c higher price. Baltimore 2c off on 25 to 100 gals. and 3c on over 100 gals. Washington, 2c off to contract buyers.

SOCONY-VACUUM OIL CO.

Buffalo, N. Y.	11	12.5
*New York City	9.5	10.5
Rochester, N. Y.	12	12.5
Syracuse, N. Y.	12.5	15
Boston, Mass.	11.5	11.5
Bridgeport, Conn.	12	12.5
Hartford, Conn.	11	11.5
Providence, R. I.	11.5	12.5

*Prices apply to consumers only in quantities over 1,000 gals. annually. For quantities under 1,000 gals. annually, add 0.5c per gal.

ATLANTIC REFINING CO.

Philadelphia, Pa.	11.5	12.5
Lancaster, Pa.	13	14
Pittsburgh, Pa.	12.5	14.5

Note: Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V.M.&P. Naphtha apply also to Light Cleaners Naphtha.

S. O. OHIO

	S.R. Solvent	V.M.&P. Naphtha
Thru Ohio	12.5	13.5

Note: V.M.&P. Naphtha prices also apply on Dry Cleaners naphtha and special Varnolene; Varnolene and Sohio Solvent 0.5c below these prices. Discounts to contract consumers, off t.w. price: 300 to 999 gals., 0.5c; 1,000 to 2,499 gals., 0.75c; 2,500 to 4,999 gals., 1c; 5,000 or more gals., 1.5c.

TANK WAGON MARKETS

Tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes, where levied, are indicated in footnotes. Discounts to various classes of buyers also are shown in footnotes. These prices in effect Aug. 8, 1938, as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. INDIANA

(Prices include state and federal taxes)

	Oleum Spirits	V.M.&P. Naphtha	Stanisol
Chicago, Ill.	16.2	16.5	15.9
Detroit, Mich.	19.2	18.7	19.7
Kansas City, Mo.	13.9	14.9	14.4
St. Louis, Mo.	14.2	15.2	12.9
Milwaukee, Wis.	18.8	19.8	19.3
Minneapolis, Minn.	19	20	17.7

Note: All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

Naphtha (In Tank Cars)

In Tank Cars (F. o. b. refinery or seaboard terminal except Ohio, delivered price.)

	V.M.&P. Naphtha	Solvent
Baltimore	10.5	9.5
New York Harbor	10	9
Philadelphia district	10.5	9
Boston	10.5	9.5
Providence	10.5	9.5
Ohio points, delivered	8.875	*8

*This is on rubber solvent.

Note: In Ohio, prices on D.C. naphtha and special. Varnolene are same as V.M.&P.; on Varnolene and Sohio Solvent, prices are 0.5c less than on V.M.&P

Latest Changes

From Aug. 2 to Aug. 8 inclusive. Dates and amounts of changes shown. See table for full current prices.

S. O. Nebraska—Red Crown Gasoline:
Dealer price cut 0.6c, Scottsbluff, Aug. 5.

Continental Oil—Conoco Bronze:
Tulsa, dealer price cut 2c, Aug. 5.

Demand:
Salt Lake City, dealer price cut 1.5c, Aug. 6.
Tulsa, dealer price cut 1c, Aug. 5.

Naphtha

S. O. Indiana—Stanisol:
Cut 0.2c, St. Louis, Aug. 3.

Corrections

Notation of amount of change and dates not previously shown in table. Table in this issue is corrected to show these changes.

Continental Oil—Conoco Bronze:

Ft. Smith and Little Rock, dealer price up 0.5c, July 12.

Demand:

Little Rock, dealer price up 0.5c, July 12.
Muskogee, dealer price did not advance 0.5c July 12 as reported on pages 43 and 44 of Aug. 3 issue. Correct price is 7c as of July 1.

Murals For Industry's World Fair Exhibit

NEW YORK—William Tefft Schwarz, one of America's outstanding mural artists, has been commissioned to do four large mural paintings depicting the story of oil for the Petroleum Industry Exhibition at the New York World's Fair.

The petroleum exhibit is being directed by a committee of oil men, and the murals will have one central theme—how the petroleum products were developed by the co-operative efforts of workers and scientists in the oil industry. Each of the canvasses will depict one phase of oil—production, transportation, research and refining. Each mural will measure 38 x 47 feet and all four will cover a total area of 7144 square feet.

The murals will be hung in the Great Hall of the Petroleum Building, a unique equilateral triangular building, in which the major portion of the exhibits will be located.

Nebraska Auto Testing Stations Criticized

LINCOLN, Neb., Aug. 9.—Municipal auto testing stations in Nebraska, set up by local governments to inspect cars for safety on the road, are the object of complaints from motorists, who are of the opinion that inspections at many of the stations are too rigid in their requirements.

The current bulletin of the Nebraska Petroleum Industries Committee quotes Governor Cochran as stating that he had been receiving such complaints, and that many were "justified."

The Nebraska Petroleum Industries Committee, sponsoring a revised and more lenient inspection procedure, points out that, while this has been brought about, complaints are increasing. The N.P.I.C. looks for a determined effort to amend the law at the next session of the legislature.

"Meanwhile," comments the bulletin, "the drive to induce municipalities to enter the inspection business continues. Some stations have been established in communities where the motor vehicle registration is too small to support and maintain them. For example, an inspection station has been established in the county seat of a county which has only 3700 motor vehicles. The residents of the county may be compelled to pay $1 per year for inspections, but non-residents are required to pay for but one inspection or 50 cents per year."

The bulletin points out that, even if every vehicle in the county pays for the required number of inspections, the county would not receive more than $2260 per year.

First Half Car Sales Fall Below 1937

NEW YORK—Total factory sales of passenger cars and trucks for the first seven months of 1938 are estimated at 1,454,200 units by the Automobile Manufacturers Association in a current release.

Domestic retail sales in June totaled 189,624 units, according to the association's latest available information, bringing the six months total to 1,178,282. In the first half of 1937, 2,408,550 cars and trucks were sold at retail within the United States.

The decline of retail distribution of motor vehicles from May to June was 15 per cent. Compared with the first half of last year, retail sales were 51 per cent lower, while factory sales to the domestic market declined almost 60 per cent.

TANK WAGON MARKETS, HEATING OILS

Prices in Effect Aug. 8, 1938

Following are posted tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.

	No. 1	No. 2	No. 4
S. O. NEW JERSEY			
Atlantic City, N. J.	8.0	6.0	6.0
Newark	8.0	6.0	6.0
Annapolis, Md.	....	6.25	....
Baltimore	7.0	6.0	5.5
Washington, D. C.	7.25	6.5	6.5
Norfolk, Va.	7.0	6.0	6.0
Petersburg	7.25	6.25	....
Richmond	7.25	6 25	6.25
Charlotte, N. C.	8.75	7.75	....
Hickory	....	8.25	....
Raleigh	8.75	7.25	....
Charleston, S. C.	8.5	7.0	....
Columbia	9.8	8.3	....
Spartanburg	10.7	9.2	....

SOCONY-VACUUM OIL CO. INC.
(S. O. New York Division)

	No. 2	No. 3	No. 4
New York City	6.50	6.50	6.50
Albany, N. Y.	7.00	7.00	6.50
Rochester, N. Y.	7.50	7.50	7.50
Boston, Mass.	6.00	6.00	6.00
Bangor, Me.	7.50	7.50	7.50
Manchester, N. H.	6.50	6.50	6.50
Burlington, Vt.	8.00	8.00	8.00
Hartford, Conn.	6.00	6.00	6.00
New Haven, Conn.	5.25	5.25	5.25
Providence, R. I.	6.00	6.00	6.00

Note: Prices for No. 1 fuel in Socony-Vacuum territory same as for kerosine which see in tank wagon table for various cities; prices change with kerosine.

	No. 1	No. 2	No. 3	No. 4
ATLANTIC REFINING Cont'd				
Philadelphia, Pa.	7.75	7.00	7.00	7.00
Allentown, Pa.	8.25	7.50	7.50	7.50
Wilmington, Del.	8.25	7.50	7.50	7.50
Springfield, Mass.	9.00	7.50	....	7.50
Worcester, Mass.	9.00	7.50	....	7.50
Hartford, Conn.	9.00	7.50	....	7.50
S. O. OHIO				
Columbus Division and Cleveland	7.50	7.50	7.00	....
City of Lima	8.00	8.00	7.00	....
Rest of Ohio	8.00	8.00	7.50	....

Note: S. O. Ohio prices are for full compartment hose dumps, bucket dumps are 0.5c per gallon higher.

S. O. INDIANA
Stanolex Fuel and Furnace Oils

	No. 1 Fuel	Stanolex Furnace
Chicago	(a)6.5	6.5
Indianapolis	...	(b)7.8
Detroit	...	7.1
Milwaukee	8.4	7.7
Minneapolis	7.8	7.8
St. Louis	7.7	7.0
Kansas City	6.8	6.8

(a) For 400 gals. and over; 150 to 399 gals., 7c; 1 to 149 gals., 8c.
(b) Excluding 4c state tax.
Note: Small-lot deliveries of light fuel oils range up to 2c higher than above quotations.

SEABOARD MARKETS, EXPORT AND COASTWISE

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days). In cargo markets, spot shipment is 90 days. Prices in cents per gallon, except heavy fuel oil in dollars per barrel, in tank car lots, f.o.b. refineries or seaboard terminals in districts designated, unless otherwise noted. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Eastern Domestic

(Inter-refinery and export prices not included.)

MOTOR GASOLINE

Prices Effective	Aug. 8	
District:	(a)60-64 Oct.	(a) 65 Oct. & Above
N. Y. harbor	6.50 – 6.75	6.75 – 7.00
(b)N. Y. harbor	6.25 – 6.50	6.50 – 6.75
Philadelphia	6.50	6.75
Baltimore	6.50	6.75
Norfolk	6.75 – 7.00	7.00 – 7.25
Wilmington, N. C.	6.75 – 7.00	7.00 – 7.25
Charleston, S. C.	6.75 – 7.00	7.00 – 7.25
Savannah	7.00 – 7.25	7.25 – 7.50
Jacksonville	7.00 – 7.25	7.25 – 7.50
Portland	7.00 – 7.50	7.25 – 7.75
Boston	6.25 – 7.00	6.50 – 7.00
Providence	6.25 – 7.00	6.50 – 7.00

WATER WHITE KEROSINE

District:			
N. Y. harbor	4.75	Charleston	5.00–5.25
(b)N. Y. harbor	4.625	Savannah	5.25–5.50
Philadelphia	5.00 –5.25	Jacksonville	5.25–5.50
Baltimore	5.00 –5.25	Portland	5.60
Norfolk	5.00 –5.25	Boston	5.00–5.25
Wilmington, N.C.	5.00 –5.25	Providence	5.00–5.25

(c)FUEL OILS

	N. Y. harb.	N. Y. harb. barges
No. 1	4.75	4.625
Nos. 2-3	4.25	4.125
No. 4	4.00 – 4.25	3.875– 4.125
No. 5	(s)$1.15	.....
No. 6	$0.95	.....

	Phila. dist.	Balt. dist.
No. 1	5.00 – 5.25	5.00 – 5.25
Nos. 2-3	4.25	4.25
No. 4	4.00	4.00 – 4.25
No. 5	$1.15	$1.15
No. 6	$0.95	$0.95

	Bost. dist.	Prov. dist.
No. 1	5.00 – 5.25	5.00 – 5.25
Nos. 2-3	4.25	4.25
No. 4	4.00 – 4.25	4.00 – 4.25
No. 5	$1.15	$1.15
No. 6	$0.95	$0.95

District:	(d)Bunker C Fuel	(d)Diesel Oil
N. Y. harbor	(f)$0.95	(g)$1.65–$1.75
Philadelphia	(f)$0.95	(g)$1.75
Baltimore	(f)$0.95	(g)$1.75
Norfolk	(e)$0.95	$1.75
Charleston	$0.90	$1.75
Savannah	(e)$0.90	$1.785
Jacksonville	(e)$0.90	$1.785
Tampa	(e)$0.85	$1.785
Portland	$1.05	$1.75
Boston	(f)$0.95	(g)$1.65–$1.75
Providence	$0.95	$1.65 –$1.75

	Gas Oil 28-34 Gravity	Diesel Oil Shore Plants
N. Y. harbor	4.00 – 4.25	4.00 – 4.25
Philadelphia dist.	4.25	....
Baltimore dist.	4.25	....
Norfolk dist.	4.25	....
Savannah dist.	....	4.25
Jacksonville dist.	....	4.25

Pacific Export

(i) (Quotations are at seaboard, Los Angeles, in cargo lots, cents per gal., except where otherwise noted.)

Prices Effective	Aug. 8	Aug. 1
U. S. Motor, under 65 oct.	4.875– 5.00	4.75 – 4.875
400 e.p. blend, under 65 oct.	5.00 – 5.25	4.875– 5.00
375-400 e.p. blend 65 oct. & above	5.25 – 5.375	5.00 – 5.25
(h) 38-40 w.w. kerosine	4.25 – 4.75	4.25 – 4.75
41-43 w.w. kerosine	4.75 – 5.00	4.75 – 5.00
44 w.w. kerosine	5.25 – 5.50	5.25 – 5.50
In Cargo lots, per bbl.		
Dieselfuel, 24° & above	$1.05 –$1.10	$1.10 –$1.15
Diesel fuel, under 24°	$0.95 –$1.05	$1.00 –$1.10
(h)30-34 diesel (gas oil)	$1.10 –$1.26	$1.15 –$1.30
(k) Grade C fuel oil	$0.55 –$0.70	$0.55 –$0.70

Prices Effective	Aug. 8	Aug. 1
In Ships' Bunkers, or deep tank lots, per bbl.:		
(j)Diesel fuel oil	$1.525–$1.55	$1.525–$1.55
(k)Grade C fuel oil	$0.875–$0.90	$0.875–$0.90
Cased Goods: (Per case)		
U. S. Motor	$1.40 –$1.525	$1.40 –$1.525
400 e.p. blend, under 65 octane	$1.50 –$1.60	$1.50 –$1.60
400 e.p. blend, 65 oct. & above	$1.60 –$1.70	$1.60 –$1.70
(h)40-43 w.w. kerosine	$1.30 –$1.40	$1.30 –$1.40
Kerosine, p.w.	$1.25 –$1.35	$1.25 –$1.35

New York Export

(Cents per gal. in bbls. F.a.s. New York)

CYLINDER OILS (Pennsylvania Products)

Bright stock:		
Light, 25 p.t.	20.50	20.50
Neutral oil:		
200 3 color, 25 p.t.	20.50	20.00
150 3 color, 25 p.t.	19.50	19.50
600 s.r., unfiltered	15.50 –16.50	15.50 –16.50
650 s.r., unfiltered	17.50 –18.50	17.50 –18.50
600 fl., s.r.	18.00 –19.00	18.00 –19.00
630 fl., s.r.	20.50 –21.50	20.50 –21.50

Wax, Domestic *and* Export

(A.S.T.M. Tests. Melting points, however, are A.M.P., 3° higher than E.M.P. Export prices, f.a.s., carloads. Domestic prices, f.o.b. refineries in New Orleans & New York districts in bags, carloads, with 0.2c discount allowed for shipment in bulk, except where noted below. Scale solid; fully refined, slabs in bags)

Prices Effective	Aug. 8	
	New York	
	Domestic	Export
124-6 Y.C. scale	2.25 – 2.35	2.25 – 2.35
122-4 W.C. scale	2.25 – 2.35	2.25 – 2.35
124-6 W.C. scale	2.25 – 2.35	2.25 – 2.35
123-5 Fully rfd.	3.75	3.375– 3.50
125-7 Fully rfd.	3.90	3.50 – 3.625
128-30 Fully rfd.	(l)4.00	3.65 – 3.875
130-2 Fully rfd.	(l)4.35	4.00 – 4.125
133-5 Fully rfd.	(l)4.65	4.40 – 4.625
135-7 Fully rfd.	(l)4.90	5.00 – 5.125
	New Orleans	
	Domestic	Export
124-6 Y.C. scale	2.25 – 2.35	2.25 – 2.35
122-4 W.C. scale	2.25 – 2.35	2.25 – 2.35
124-6 W.C. scale	2.25 – 2.35	2.25 – 2.35
123-5 Fully rfd.	3.75	3.375– 3.50
125-7 Fully rfd.	3.90	3.50 – 3.625
128-30 Fully rfd.	(l)4.00	3.65 – 3.875
130-2 Fully rfd.	(l)4.35	4.00 – 4.125
133-5 Fully rfd.	(l)4.65	4.40 – 4.625

Gulf Coast

(F.o.b. ship, Gulf oil terminals; minimum 20,000 bbls.; representing traders' opinions)

Prices Effective	Aug. 8	Aug. 1
For Domestic shipment:		
MOTOR GASOLINE		
59 oct. & below	4.75 – 5.00	4.875– 5.125
60-64 oct.	5.00 – 5.25	5.125– 5.25
65-67 octane	5.125– 5.375	5.375– 5.50
68-70 octane	(a)5.50 – 5.75	5.75 – 6.00
FUEL OILS		
No. 1	3.875– 4.00	3.875– 4.00
No. 2	3.50	3.50
KEROSINE		
41-43 w.w.	4.00	4.00
For Export Shipment:		
GASOLINE		
U. S. Motor	4.75 – 5.00	4.75 – 5.00
60-62, 400 e.p.	4.75 – 5.00	4.75 – 5.00
61-63, 390 e.p.	4.75 – 5.00	4.75 – 5.00
64-66, 375 e.p.	4.875– 5.00	4.875– 5.00
KEROSINE		
44 w.w.	(a) 4.25 –4.50	(a)4.25 – 4.50
41-43 w.w.	4.00	4.00
41-43 p.w.	4.00	4.00

Prices Effective	Aug. 8	Aug. 1
GAS AND BUNKER OILS		
For Export Shipment		
Gas Oil (m):		
Below 43 diesel index	3.50	3.50
43-47 diesel index	3.50 – 3.625	3.50 – 3.625
48-52 diesel index	(a) 3.50 –3.625	(a) 3.50 –3.625
53-57 diesel index	(a) 3.625–3.75	(a) 3.625–3.75
For Domestic and /or Export Shipment		
Diesel Oil Ship's bkrs.	(o) $1.55–$1.75	(o) $1.55–$1.75
Grade C bunker oil for ship's bunkers	(o)$0.75	(o)$0.75
Grade C bunker oil, in cargoes	$0.625–$0.675	$0.65 –$0.70

MID-CONTINENT LUBRICATING OILS

(Cents per gal. at Gulf; in bbls., f.a.s.; in bulk, f.o.b. terminals)

	Aug. 8	
190-200 vis. D. 210 brt. stock	(p)Barrels 22.50 –24.50	Bulk 17.60 –17.75
150-160 vis. D 210 brt. stock:		
0-10 p.p.	19.00 –20.50	13.00 –14.75
10-25 p.p.	18.50 –20.00	12.50 –14.25
150-160 vis. E 210 brt. stock	18.50 –20.00	13.00 –14.50
120 vis. D 210 brt. stock	18.50 –20.00	13.00 –14.50

	Aug. 8	Aug. 1
180 vis. No. 3 color neutral:	Bulk	Bulk
0-10 p.p.	10.00 –10.50	10.00 –10.50
15-30 p.p.	9.50 –10.00	9.50 –10.00
200 vis. No. 3 color neutral:		
0-10 p.p.	10.00 –10.50	10.00 –10.50
15-30 p.p.	9.50 –10.00	9.50 –10.00
600 s.r. olive green	9.00 –11.25	9.00 –11.25
600 s.r. dark green	7.00 – 9.25	7.00 – 9.25

SOUTH TEXAS LUBRICATING OILS

(Vis. at 100° cold test 0, bulk export shipment, f.o.b. terminals.)

Unfiltered Pale Oils:			
Vis.	Color		
100 No. 3		4.75 – 5.00	4.75 – 5.00
200 No. 3		6.25 – 6.75	6.25 – 6.75
300 No. 3		6.75 – 7.25	6.75 – 7.25
500 No. 3½		7.75 – 8.25	7.75 – 8.25
750 No. 4		8.25 – 8.75	8.25 – 8.75
1200 No. 4		8.75 – 9.25	8.75 – 9.25
2000 No. 4		9.00 – 9.50	9.00 – 9.50
Red Oils:			
Vis.	Color		
100 No. 5-6		4.75 – 5.00	4.75 – 5.00
200 No. 5-6		6.25 – 6.75	6.25 – 6.75
300 No. 5-6		6.75 – 7.25	6.75 – 7.25
500 No. 5-6		7.75 – 8.25	7.75 – 8.25
750 No. 5-6		8.25 – 8.75	8.25 – 8.75
1200 No. 5-6		8.75 – 9.25	8.75 – 9.25
2000 No. 5-6		9.00 – 9.50	9.00 – 9.50

Note: Red oil prices cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

Tanker Rates

(Approximate freight rates to Continental ports, shillings per ton of 2240 lbs., British sterling; U.S. ports cents per bbl.)

Rates Effective Aug. 8

	Crude &/or Fuel		Refined Oil &/or Spirits	
	Last Paid	Owners Ask	Last Paid	Owners Ask
Gulf-U.K./Cont. (q)	11/6	12/-12/6	12/	12/6-13/
Aruba-U.K./Cont. (q)	10/	10/-10/6	10/6	10/6-11/
Gulf-N. Atlantic (r) (not E. of N.Y.): Hvy. Crude & fuel, (10 to 19.9 gravity)	18c	19c	....	....
Light Crude, (30 Grav. or Lighter)	16c	16c-17c	....	....
Gasoline	....	....	15c	16-17c
Kerosine	....	....	15c	16-17c
Light Fuel	....	....	16c	16-17c

(a) Prices nominal. (b) In barge lots. (c) Fuel oils meet specifications of U. S. Commercial Standards CS12-35. (d) In ships' bunkers. (e) For barging, add 5c per bbl. (f) For barging, add 5 to 6c per bbl. (g) For barging, add 6.5 to 7.5c per bbl. (h) 150 fire point. (i) For San Francisco cargo prices, add 5c per bbl. to cargo prices shown above. (j) Pacific Specification 200. (k) Pacific Specification 400. (l) Shipment either in bags or in bulk. (m) Less than ½ of 1% sulfur. (n) No prices reported. (o) Barging 5c per bbl. additional at some Gulf ports. (p) Second-hand barrels. (q) Continental ports in range between Bordeaux and Hamburg, both inclusive. (r) Venezuela loading, same rate; Tampico, 2c to 3c per bbl. additional. (s) New pour test, low viscosity. No. 5 generally quoted at $1.25.

CRUDE OIL MARKETS

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

EASTERN FIELDS

Posted by Joseph Seep Purchasing Agency

(Effective June 13, 1938, except Corning June 16, 1938)

Penna. Grade Oil in Southwest Penna. Pipe Lines.....$1.46
Penna. Grade Oil in Eureka Pipe Lines (West Virginia).....$1.40
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.).....$1.30
Corning Oil in Buckeye Pipe Lines (Ohio)...$1.17

Posted by Other Companies

Tide Water Associated Oil Co.
Bradford-Allegany district (Penna. and N. Y.) (Effective June 13, 1938).....$1.80
*The Pennzoil Co.: (Effective June 13, 1938)
Penna. Grade Oil in National Transit Lines*$1.73
Ashland Oil & Transportation Co.:
Somerset Oil in Ashland Lines (Ky.):
(Effective July 1, 1938)
Big Sandy River.....$1.32
Kentucky River.....$1.40

*The Pennzoil Co. posts $1.73 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields; prices in other lower districts range down to $1.68 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co.

Midland, Midland County (Jan. 5, 1938)....$1.12

Posted by Simrall Pipe Line Corp.

(Effective Aug. 9, 1938)
West Branch, Arenac, and equal grades.....$0.90
(Effective Jan. 8, 1938)
Beaverton, Crystal, Greendale, Porter and equal grades.....$1.12
Buckeye, Bentley, Billings, Tobacco and equal grades.....$1.095

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

(Effective Jan. 28, 1937)
Illinois, Princeton.....$1.35
(Effective June 22, 1938)
Owensboro, (Western Ky.).....$1.30
(Effective Nov. 20, 1937)
Lima, O.....$1.00

Posted by Owensboro Corp.

(Effective May 25, 1938)
North Centralia, Ill.....$1.25
(Effective Aug. 8, 1938)
Centralia, Ill. (congested area).....$1.10

Posted by Stoll Oil Refining Co.

(Effective June 22, 1938)
Stoll Pipe Line Oil (Ky.).....$1.30

CANADIAN FIELDS

Posted by Imperial Oil Limited

Western Ontario
(Effective Sept. 9, 1933)
Petrolia.....$2.10
Oil Springs.....$2.17

Alberta—Turner Valley
(Prices f.o.b. field tankage)
(Effective Jan. 5, 1938)
Crude Oil

40-40.9°	$1.14	53-53.9	$1.40
41-41.9	1.16	54-54.9	1.42
42-42.9	1.18	55-55.9	1.44
43-43.9	1.20	56-56.9	1.46
44-44.9	1.22	57-57.9	1.48
45-45.9	1.24	58-58.9	1.50
46-46.9	1.26	59-59.9	1.52
47-47.9	1.28	60-60.9	1.54
48-48.9	1.30	61-61.9	1.56
49-49.9	1.32	62-62.9	1.58
50-50.9	1.34	63-63.9	1.60
51-51.9	1.36	64-64.9	1.62
52-52.9	1.38		

Crude Naphtha, 65 grav. & above.....$2.14

Absorption Gasoline
90% Rec., 20 lb. Reid v.p.....$1.94
90% Rec., 17 lb. Reid v.p.....$2.08

†MID-CONTINENT

(Effective Jan. 28, 1937)

	(In Oklahoma-*Kansas)	(In North-North Central Texas)
Below 29	$1.06	$0.96
29-29.9	1.08	0.98
30-30.9	1.10	1.00
31-31.9	1.12	1.02
32-32.9	1.14	1.04
33-33.9	1.16	1.06
34-34.9	1.18	1.08
35-35.9	1.20	1.10
36-36.9	1.22	1.12
37-37.9	1.24	1.14
38-38.9	1.26	1.16
39-39.9	1.28	1.18
40 & above	1.30	1.20

†Prices shown in table posted by Standard Oil Co. (Indiana) in Okla.-Kans., and Stanolind Oil Purchasing Co. in Texas.

Above Stanolind prices met as follows:

Jan. 28, Continental Oil Co. met in Okla., Kans., and North Texas. Sinclair-Prairie met in North Texas and North Central Texas, Jan. 28, Stanolind's North Texas schedule. Same date, The Texas Co. met in North-North Central Texas.

Effective June 16, 1938, Kanotex Refg. Co. posted Okla.-Kans. crude, 34 & below, at $1.03, 35-35.9 at $1.05, plus 2c differential to 40 & above, at $1.15.

Note: Stanolind prices in Okla.-Kans. are for quantities computed by 97% tank tables. In Texas, 100% tank tables are used effective Oct. 1, 1937, volume corrected to 60° F., and deduction for full b.s. & w. content.

*Effective Aug. 1, 1937, for Otis-Albert pools Rush-Barton counties, Kans., 13c less.

Posted by Carter Oil Co.

In Oklahoma
(Effective Jan. 28, 1937)

Below 25	$0.98	33-33.9	$1.16
25-25.9	1.00	34-34.9	1.18
26-26.9	1.02	35-35.9	1.20
27-27.9	1.04	36-36.9	1.22
28-28.9	1.06	37-37.9	1.24
29-29.9	1.08	38-38.9	1.26
30-30.9	1.10	39-39.9	1.28
31-31.9	1.12	40 and above...	1.30
32-32.9	1.14		

Above Carter schedule met Jan. 28 by the following companies: Sinclair-Prairie, Shell and Barnsdall in Oklahoma-Kansas; Skelly Oil in Kansas; Tide Water in Oklahoma; Pure Oil in Oklahoma-Kansas, beginning with below 24 at $0.98 and ending with 40 & above at $1.30.

Posted by Magnolia Petroleum Co.

(Effective Jan. 28, 1937)

In Oklahoma, same schedule as Carter Oil, which see above, beginning with below 25, at $0.98 and ending with 40 & above, at $1.30.

In Texas: North and North Central, including Burkburnett, Archer, Henrietta, Electra, Comanche and Olden, same gravity and price schedule as Stanolind in North Texas, which see under Stanolind, beginning with below 29 at $0.96 and ending with 40 and above, at $1.20.

Jefferson County, Texas

	Beaumont (Magnolia) (Oct. 1, 1937)	West Beaumont (Humble) (May 1, 1938)
Below 21°	$0.95	$0.95
21-21.9	0.98	0.98
22-22.9	1.01	1.01
23-23.9	1.04	1.04
24-24.9	1.07	1.07
25-25.9	1.10	1.10
26-26.9	1.13	1.13
27-27.9	1.15	1.15
28-28.9	1.17	1.17
29-29.9	1.19	1.19
30-30.9	1.21	1.21
31-31.9	1.23	1.23
32-32.9	1.25	1.25
33-33.9	1.27	1.27
34-34.9	1.29	1.29
35-35.9	for	1.31
36-36.9	oil	1.33
37-37.9	34 & above	1.35
38-38.9		1.37
39-39.9		1.39
40 & above		1.41

TEXAS FIELDS

Posted by Humble Oil & Refining Co.

(*West Central Texas)

(Effective Jan. 28, 1937)

Below 29	$0.96	35-35.9	$1.10
29-29.9	0.98	36-36.9	1.12
30-30.9	1.00	37-37.9	1.14
31-31.9	1.02	38-38.9	1.16
32-32.9	1.04	39-39.9	1.18
33-33.9	1.06	40 and above...	1.20
34-34.9	1.08		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young counties.

Shell Petroleum Corp., effective Jan. 28, posts Humble's above schedule on Fisher county crude, plus these five lower grades, beginning with below 25 gravity at $0.88; 25-25.9, $0.90; 26-26.9, $0.92; 27-27.9, $0.94, and 28-28.9, $0.96; rest of schedule same as Humble's in West Central Texas.

Note: Effective Oct. 1, 1937, Humble prices are based on 100% tank tables at 60F.

****East Central Texas***

(Effective Jan. 28, 1937)

Below 29	$1.03	35-35.9	$1.17
29-29.9	1.05	36-36.9	1.19
30-30.9	1.07	37-37.9	1.21
31-31.9	1.09	38-38.9	1.23
32-32.9	1.11	39-39.9	1.25
33-33.9	1.13	40 and above...	1.27
34-34.9	1.15		

*Including Anderson, Cherokee, Limestone, Navarro counties.

Same date, Sinclair-Prairie met in Mexia Humble's above schedule.

PANHANDLE TEXAS

Posted by Humble Oil & Refining Co.

(Effective Jan. 28, 1937)

	Gray County	Carson-Hutchinson
Below 35	$0.96	$0.91
35-35.9	0.98	0.93
36-36.9	1.00	0.95
37-37.9	1.02	0.97
38-38.9	1.04	0.99
39-39.9	1.06	1.01
40 & above	1.08	1.03

Jan. 28, above prices met by Sinclair-Prairie and Magnolia in the entire area and by Continental in Carson-Hutchinson and by Texas Co. in Panhandle Sweet, same as Humble's Gray Co. and on Panhandle Sour, same as Carson-Hutchinson.

EAST TEXAS

(Effective May 22, 1937)

Stanolind, Humble, Shell, Sinclair-Prairie, Texas Co., and Magnolia.....$1.35
Shell also posted on Jan. 28, in Livingston area, Polk County, Texas, $1.27.

NORTHEAST TEXAS

(Posted by Humble, Jan. 28, 1937)

Talco.....$0.73

(Posted by Magnolia, Jan. 28, 1937)

Cass County and Panola County, Tex.:
Same gravity and price schedule as S. O. Louisiana posts for Rodessa, La., which see under that company

(Posted by The Texas Co., Jan. 28, 1937)

Cass County.....$1.25

WEST TEXAS AND NEW MEXICO

Posted by Humble Oil & Refining Co.

(Effective Jan. 28, 1937)

(Including Andrews, Crane, Crockett, Ector, Glasscock, Howard, Winkler and Upton Counties, Texas and Lea county, New Mexico).

Below 26	$0.78	33-33.9	$0.94
26-26.9	0.80	34-34.9	0.96
27-27.9	0.82	35-35.9	0.98
28-28.9	0.84	36-36.9	1.00
29-29.9	0.86	37-37.9	1.02
30-30.9	0.88	38-38.9	1.04
31-31.9	0.90	39-39.9	1.06
32-32.9	0.92	40 & above	1.08

Pecos, West Texas.....$0.91

Jan. 28, Magnolia met Humble in Crane, Upton, Howard, Glasscock, Mitchell and Winkler.

Shell Petroleum Corp., on Jan. 28, met Humble in Crane, Glasscock, Howard, Pecos (except Yates shallow pool), Winkler, and Upton counties, Tex., and in Lea County, N. Mex. On Jan. 28, Shell posted in Yates shallow pool in Pecos county, Tex., $0.81. June 4, 1937, Shell added Ector county to West Texas postings.

Jan. 28, Stanolind Oil & Gas Co. met Humble in Hendrick field, Winkler county.

Jan. 28, Texas Co. met Humble in Ward and Winkler counties, Tex., and Lea County, N. M. except that its top grade is 36 and above, at $1.00.

April 20, 1937, Sinclair Prairie met Humble in Ward and Winkler, Tex. and Lea, N. M., counties, except that its gravity schedule ends with 36 and above, at $1.00.

Posted by Continental Oil Co.

(Effective Jan. 28, 1937)

Artesia, Jackson and Maljamar pools, N. M...$0.90

COLORADO

(Posted by Continental Oil Co.)

(Effective Jan. 28, 1937)

Ft. Collins and Wellington

Below 29	$1.01	35-35.9	$1.15
29-29.9	1.03	36-36.9	1.17
30-30.9	1.05	37-37.9	1.19
31-31.9	1.07	38-38.9	1.21
32-32.9	1.09	39-39.9	1.23
33-33.9	1.11	40 & above....	1.25
34-34.9	1.13		

Canon City and Florence, Col.....$1.10

SOUTH AND SOUTHWEST TEXAS

All Shown Below Posted by Humble Oil & Refining Co.

(Effective Jan. 28, 1937)

Carroll, Clark, Darst Creek, Hilbig, Salt Flat and Zoboroski fields.....$1.09
Pettus.....$1.37 Van Zandt.....$1.10

Jan. 28, Magnolia met Humble in Darst Creek; posted $1.00 in Luling; $1.12 in Lytton Springs; $1.27 for Cleveland, and $1.15 in Hardin, both in Liberty county, Tex. Effective July 11, 1938, Sun Oil Co. posted $1.15 for Hardin.

Jan. 28, 1937, The Texas Co. met Humble in Darst Creek.

Anahuac, Dickinson, Flour Bluff and Turtlebay

(Effective Jan. 28, 1937)

Below 31	$1.16	36-36.9	$1.28
31-31.9	1.18	37-37.9	1.30
32-32.9	1.20	38-38.9	1.32
33-33.9	1.22	39-39.9	1.34
34-34.9	1.24	40 and above...	1.36
35-35.9	1.26		

Conroe, Raccoon Bend (Deep sand crude) Tomball and Satsuma

(Effective Jan. 28, 1937)

Below 29	$1.20	35-35.9	$1.34
29-29.9	1.22	36-36.9	1.36
30-30.9	1.24	37-37.9	1.38
31-31.9	1.26	38-38.9	1.40
32-32.9	1.28	39-39.9	1.42
33-33.9	1.30	40 & above....	1.44
34-34.9	1.32		

Jan. 28, Magnolia met Humble in Tomball and Texas Co. met Humble in Conroe, beginning with 35-35.9 gravity.

Jefferson County, Tex.

West Beaumont, see prices under Magnolia in center column.

(*Continued on next page*)

CRUDE OIL MARKETS

(Continued from preceding page)

South-Southwest Texas (cont'd)

Posted by Humble

***Mirando**

(Effective July 6, 1937)

Below 21	$0.96	31-31.9	$1.18
21-21.9	0.98	32-32.9	1.20
22-22.9	1.00	33-33.9	1.22
23-23.9	1.02	34-34.9	1.24
24-24.9	1.04	35-35.9	1.26
25-25.9	1.06	36-36.9	1.28
26-26.9	1.08	37-37.9	1.30
27-27.9	1.10	38-38.9	1.32
28-28.9	1.12	39-39.9	1.34
29-29.9	1.14	40 & above	1.36
30-30.9	1.16		

*Includes Duval, Jim Hogg, Webb and Zapata counties, Tex. and Heyser and Placedo crudes.

July 6, Magnolia posted same schedule as Humble in Mirando.

July 6, 1937, Texas Co. posted for Duval-Mirando, $0.96 for below 21, plus 2c differential, to $1.12 for 28 & above.

LOUISIANA-ARKANSAS

Posted by Standard Oil Co. of Louisiana

(Effective Jan. 28, 1937)

	*N. La.-Ark.	Rodessa, La.	Roanoke & N. Crowley, S. La. (Dec. 28, '37)	†Columbia County, Ark. (July 7, 1938)
Below 21°	$0.90	$0.93	$0.90	$0.83
21-21.9	for	for	.93	for
22-22.9	oil	oil	.96	oil
23-23.9	Below	Below	.99	Below
24-24.9	25°	25°	1.02	25°
25-25.9	$0.92	$0.95	1.05	$0.85
26-26.9	.94	.97	1.08	.87
27-27.9	.96	.99	1.10	.89
28-28.9	.98	1.01	1.12	.91
29-29.9	1.00	1.03	1.14	.93
30-30.9	1.02	1.05	1.16	.95
31-31.9	1.04	1.07	1.18	.97
32-32.9	1.06	1.09	1.20	.99
33-33.9	1.08	1.11	1.22	1.01
34-34.9	1.10	1.13	1.24	1.03
35-35.9	1.12	1.15	1.26	1.05
36-36.9	1.14	1.17	1.28	1.07
37-37.9	1.16	1.19	1.30	1.09
38-38.9	1.18	1.21	1.32	1.11
39-39.9	1.20	1.23	1.34	1.13
40 & above	1.22	1.25	1.36	1.15

*Includes Caddo, Homer, Haynesville, Sabine, De Soto, Sarepta, Carterville, El Dorado, Bunkie and Miller county.

†Includes Buckner, Magnolia, and Village pools.

Smackover, Ark. $0.90

Urania, La. (Ark. Fuel Oil Co., Jan. 28 '37) $1.02

Posted by Continental Oil Co.

*Tepetate, *Abbeville and *Ville Platte, La. $1.24

*Tepetate effective Jan. 28, 1937; Abbeville and Ville Platte, June 1, 1938.

Jan. 28, 1937, Magnolia met S. O. La.'s No. La.-Ark. gravity and price schedule in Pine Island, Haynesville, Bull Bayou and Cotton Valley, La., and in Eldorado and Rainbow districts, Ark.; and met S. O. La.'s Rodessa prices; and in Lockport, Iowa, Cameron Meadow, La., posted Humble's gravity and price schedule on Mirando. El Dorado East Field, Ark. price same as Smackover, effective Jan. 28, '37.

Jan. 28, The Texas Co. met S. O. La. in N. La., except that its gravity schedule begins with below 27 at $0.94. It posted $1.37 for Garden Island, La., $1.24 for LaFitte, La. and $0.90 for Smackover.

***GULF COASTAL FIELDS**

Posted by Humble Oil & Refining Co. and The Texas Co.

	(Effective Jan. 28, 1937 Humble	Texas	†Refugio Saxet, etc. (Humble) (July 6,'37)
Below 18	$0.95	*$0.95	....
18-18.9	for	for	....
19-19.9	below	below	....
20-20.9	21°	21°	$1.01
21-21.9	0.98	0.98	1.03
22-22.9	1.01	1.01	1.05
23-23.9	1.04	1.04	1.07
24-24.9	1.07	1.07	1.09
25-25.9	1.10	1.10	1.11
26-26.9	1.13	1.13	1.13
27-27.9	1.15	1.15	1.15
28-28.9	1.17	1.17	1 17
29-29.9	1.19	1.19	1.19
30-30.9	1.21	1.21	1.21
31-31.9	1.23	1.23	1.23
32-32.9	1.25	1.25	1.25
33-33.9	1.27	1.27	1.27
34-34.9	1.29	1.29	1.29
35-35.9	1.31	for	1.31
36-36.9	1.33	oil	1.33
37-37.9	1.35	34°	1.35
38-38.9	1.37	and	1.37
39-39.9	1.39	above.	1.39
40 & above.	1.41	....	1.41

†Includes also Greta, O'Connor-McFadden, Taft, Plymouth and Tom O'Connor crudes.

*Humble's prices apply in these Texas fields: Amelia, Barbers Hill, Clinton, Goose Creek, Hull, Liberty, Mykawa, Orange, Pierce Junction, Raccoon Bend, (shallow sand), Sugarland, Thompsons, and West Columbia. Same prices also apply, effective Feb. 1, 1938, in Clinton, Tex., posted by Stanolind.

Jan. 28, Sinclair-Prairie met above Humble schedule in full.

‡$0.95 for oil below 21° posted April 1, 1938.

July 6, 1937, The Texas Co. posted for Refugio, which includes Greta, Saxet and Taft: $1.01 for below 21, plus 2c differential, to $1.17 for 28 & above.

Texas Co. postings in Gulf Coastal Texas include: Arriola, Five Corners, Ganado, Humble, Liberty, Magnet, Manvel, Markham, Maritz, McFaddin, Pickett Ridge, Port Neches, Sour Lake, West Columbia and Withers. In Gulf Coastal Louisiana: Bay St. Elaine, Caillou Island, Dog Lake, Four Isle, Gillis, Horseshoe Bayou, Iberia, Lake Barre, Lake Pelto, Leesville and Port Barre.

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co.

(Effective Jan. 28, 1937)

Salt Creek, (except Tensleep crude), Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma, Kansas which see under Mid-Continent crude on previous page.

(Effective Jan. 6, 1938)

Tensleep, Salt Creek field $0.70

(Effective Jan. 28, 1937)

Greybull-Torchlight	$1.30
Iles, light, Col	1.18
Iles, heavy	1.12
Hogback, N. M.	1.33
Big Muddy	1.23

(Effective July 8, 1938)

Elk Basin, light	$1.05
Grass Creek, light	1.05

(Effective May 1, 1938)

Frannie light	$0.65
Grass Creek, heavy	0.50
Hamilton Dome, Wyo.	0.45

(Effective Nov. 4, 1936)

Frannie heavy $0.62

Posted by Ohio Oil Co.

(Effective July 8, 1938)

Elk Basin, Wyo.	$1.05
Grass Creek, light	1.05

(Effective Jan. 28, 1937)

Rock Creek	1 205
Lance Creek	0.97

(Effective May 1, 1938)

Grass Creek heavy $0.50

(Effective Nov. 16, 1937)

Sunburst, Mont. $0.90

Posted by Continental Oil Co.

(Effective Jan. 1, 1938)

Cat Creek, Mont. $1.30

(Effective Jan. 28, 1937)

Big Muddy, Wyo.	$1.18
Lance Creek, Wyo.	0.97

CALIFORNIA, *Posted by Standard Oil of California*

All gravities above those quoted take highest price offered in the field. Prices effective Feb. 26, 1936, except Huntington Beach, Playa del Rey, Santa Fe Springs, Kern Front, Signal Hill (Long Beach) effective March 7, 1936; Elk Hills effective June 22, 1936; Lakeview Area, Aug. 19, 1936; El Segundo and Wilmington, Oct. 15, 1937; Greeley-Canal, July 9, 1938; Santa Maria Valley, by Union Oil, May 20, 1938.

Gravity	Signal Hill (Long Beach) El Segundo †Wilmington	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda Brea Canon	Athens Rosecrans	Dominguez	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	‡Newhall and others	Mountain View	Elk Hills	Buena Vista Hills Midway-Sunset Lakeview Area	Greeley-Canal (Kern County)	Lost Hill-	Coalinga	Wheele Ridge	Santa Maria (Union Oil)
13-13.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	$0.40
14-14.9	$0.80	$0.79	$0.74	$0.78	$0.79	$0.80	$0.76	....	....	$0.80	$0.76	$0.76	$0.77	$0.78	....	$0.70	....	$0.70	$0.70	....	$0 70	$0.70	....	.42
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....	.44
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....	.45
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....	.46
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....	.47
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	....	.70	.70	.74	.74	....	.74	.71	.70	.48
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	....	....	.70	.78	.78	....	.78	.72	.70	....
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	.78	....	.73	.82	.82	....	.82	.74	.70	....
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	....	.77	.87	.87	....	.86	.78	.72	....
23-23.9	.95	.86	.77	.96	.99	1.02	.96	.84	.79	.96	.88	.93	.82	.92	.78	....	.80	.92	.92	....	.90	.82	.76	....
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	.99	.91	.96	.85	.96	.82	....	.84	.97	.97	....	.94	.86	.79	....
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	1.02	.95	....	.89	.99	.86	....	.88	1.01	1.01	....	.98	.90	.83	....
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	1.05	.98	....	.92	1.03	.90	....	.91	1.06	1.06	....	1.02	....	....	....
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	1.02	....	.96	1.06	.95	....	.95	1.10	1.10	$0.91	1.06	....	....	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	1.06	....	.99	1.10	.99	....	.99	1.15	1.15	.94	1.10	....	....	....
29-29.9	1.17	1.15	.93	1.18	1.18	....	1.17	1.12	.93	....	1.09	....	1.03	1.14	1.03	....	1.02	1.20	1.20	.98	1.14	....	....	....
30-30.9	1.21	1.19	.95	1.22	1.21	....	1.21	1.17	.95	....	....	....	1.07	1.17	1.08	....	1.06	1.25	1.25	1.02	1.18	....	....	....
31-31.9				....	1.24		1.24	1.22	.97	....	....	....	1.11	1.21	1.12	....	1.09	1.29	1.29	1.06				....
32-32.9		*Elwood Terrace		....	1.27		1.27	1.27	1.00	....	....	....	1.14	1.25	1.16	....	1.13	1.34	1.34	1.09		Kettleman Hills		....
33-33.9	....	1.28	....	....	....		....	1.32	....	....	....	....	1.18	1.28	1.20	....	1.17	1.38	1.38	1.13	....	1.19	....	....
34-34.9	....	1.32	....	....	....		....	1.37	....	....	....	....	1.22	1.32	1.25	....	1.20	....	....	1.17	....	1.23	....	....
35-35.9	....	1.35	....	....	....		....	1.42	....	....	....	....	1.25	....	1.29	....	....	....	....	1.20	....	1.27	....	....
36-36.9	....	1.39	....	....	....		....	1.46	....	....	....	....	1.29	....	1.33	....	....	....	....	1.24	....	1.31	....	....
37-37.9	....	1.43	....	....	....		....	1.51	....	....	....	....	1.32	....	1.37	....	....	....	....	1.28	....	1.35	....	....
38-38.9	....	....	....	....	....		....	1.56	....	....	....	....	1.36	....	1.42	....	....	....	....	1.31	....	1.39	....	....
39-39.9	....	....	....	....	....		....	1.61	....	....	....	....	1.40	....	....	....	....	....	....	1.35	....	1.43	....	....
40-40.9	....	....	....	....	....		....	1.66	....	....	....	....	1.43	....	....	....	....	....	....	1.39	....	....	....	....
41-41.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.43	....	....	....	....
42-42.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.46	....	....	....	....
43-43.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.50	....	....	....	....
44-44.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.54	....	....	....	....
45-45.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.57	....	....	....	....
46-46.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.61	....	....	....	....
47-47.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.65	....	....	....	....
48-48.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1.68	....	....	....	....

F. O. B. Standard Pipe Line

*F. o. b. ship.

‡Also McKittrick, Kern River. Kern Front and Round Mountain $0.70 thru 19.9 gravity; no higher gravity quoted.

†Wilmington prices differ on gravities below 18.9. Prices are: 14-16.9, $0.75; 17-17.9, $0.77; and 18-18.9, $0.79; rest of schedule same as Signal Hill.

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Coming Meetings

Mississippi Oil Dealers, Jackson, Miss., some time in Sept.
American Chemical Society, Milwaukee, Wis., Sept. 5 to 9.
Kentucky Petroleum Marketers Assn., annual fall conference and golf tournament, Brown Hotel and Big Spring Golf Club, Louisville, Sept. 8.
National Petroleum Assn., 36th annual meeting, Hotel Traymore, Atlantic City, Sept. 14, 15 and 16.
Oil Trades Assn. of New York, sports day, Pelham Country Club, Pelham, N. Y., Sept. 20.
National Association of Petroleum Retailers, annual meeting, St. Louis, Sept. 27, 28 and 29.
American Assn. of Petroleum Geologists, mid-year meeting, under direction of West Texas Geological Society, El Paso, Tex., Sept. 27-Oct. 2.
National Lubricating Grease Institute, 6th annual meeting, Chicago, Oct. 3 and 4.
Ohio Petroleum Marketers Assn., fall conference and golf tournament, Ohio Hotel and Southern Hills Country Club, Youngstown, O., Oct. 5, 6.
American Institute of Mining and Metallurgical Engineers, Petroleum Division, Plaza Hotel, San Antonio, Tex., Oct. 5-7.
New England States Tax Officials Assn., 26th annual conference, Bangor, Me., Oct. 6, 7.
Society of Automotive Engineers, national regional fuels and lubricants meeting, Tulsa, Okla., Oct. 6 and 7.
American Gas Assn., Atlantic City, N. J., Oct. 10 to 14.
National Safety Congress, Petroleum Section, Hotel Stevens, Chicago, Ill., Oct. 10 to 14.
Indiana Independent Petroleum Assn., Fall convention, Hotel Severin, Indianapolis, Ind., Oct. 12 and 13.
National Stripper Well Assn., annual meeting, Tulsa, Okla., Oct. 18.
Independent Petroleum Assn. of America, Tulsa, Okla., Oct. 19, 20 and 21.
American Inst. of Mining & Metallurgical Engineers, Petroleum Division, Los Angeles, Oct. 20, 21.
National Assn. of Credit Men, Petroleum Refiners Division, Indianapolis, Athletic Club, Indianapolis, Ind., Oct. 24, 25, 26.

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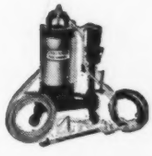

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Plan Oil's Exhibit for World's Fair

● Final plans for the exhibits of the oil industry at the New York World's Fair in 1939, as sponsored by a group of the large oil companies, have been approved by the directors of the Petroleum Industry Exhibition, including the unique, equilateral triangular building measuring 200 feet on a side and 80 feet high, in which the exhibits will be housed. Work on the construction of this building is already under way.

Some of the directors, taken at a recent meeting, include: seated, C. H. Hathaway, assistant to the president of Gulf Oil Corp.; S. W. Candee, director of personnel of Tide Water Associated Oil Co.; W. C. Burns, president of Richfield Oil Corp. of New York; E. E. Puryear, assistant to the president of The Texas Co.; T. H. Taylor, assistant to the president of Standard Oil Co. of New Jersey and President of the Exhibition Board; D. T. Pierce, assistant to the chairman of executive committee of Sinclair Refining Co.; W. C. Pew, vice president of Sun Oil Co.; R. E. Wilson, president of the American Oil Co.; and H. B. Stone, general manager, New York state division, Atlantic Refining Co.

Standing are members of the Board of Design: Bernard Lichtenberg, of the Institute of Public Relations; Perry Coke Smith and Ralph Walker of Voorhees, Gmelin & Walker, architects for the Petroleum Building; and Gilbert Rohde, designer of the exhibits.